



REPORT

OF

THE CONDITION AND PROGRESS

OF THE

QUEEN'S UNIVERSITY IN IRELAND,

FROM

1st SEPTEMBER, 1856, TO 1st SEPTEMBER, 1857.

BY

THE RIGHT HON. MAZIERE BRADY,

VICE-CHANCELLOR OF THE UNIVERSITY, AND LORD HIGH CHANCELLOR OF IRELAND.

Presented to both Houses of Parliament by Command of Her Majesty.

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1858.

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REPORT.

TO HIS EXCELLENCY THE EARL OF CARLISLE, LORD LIEUTENANT
GENERAL, AND GENERAL GOVERNOR OF IRELAND.

DUBLIN, September 24, 1857.

MAY IT PLEASE YOUR EXCELLENCY,

In the absence of the Earl of Clarendon, Chancellor of the Queen's University, it becomes my duty, as Vice-Chancellor, in compliance with the provisions of Her Majesty's Charter, to furnish to your Excellency the Report of its condition and progress since the 1st of September, 1856.

In accordance with the Ordinance of the 7th of January, 1856 (as printed in the Fourth Appendix to last year's Report), the Examinations of 1856 commenced on the 16th of September, and terminated on the 1st of October; they were principally conducted by printed papers, copies of which are herewith annexed.

Appendix
II.

At the close of the examination, the several Candidates named in the accompanying lists were duly passed by the Examiners, for the Degrees, Diplomas, and Honors, attached to their respective names, all of which were accordingly conferred at a public meeting of the University, held in Dublin Castle, on the 7th of October last.

Appendix
III.

Your Excellency was graciously pleased to honour this meeting with your presence, and an account of the proceedings on the occasion will be found appended to this Report.

Appendix I.

In the premature decease of its Secretary, the late lamented Robert Ball, Esq., LL.D., which occurred early in the present year, the Senate of the University has had to deplore the loss of a most zealous and efficient officer; while the general interests of science and intellectual progress have unhappily been deprived of the services of one whose best exertions were always cheerfully given to their promotion and support, and whose varied acquirements and extensive scientific knowledge admirably qualified him to sustain and advance them.

The vacancy thus occasioned in the Secretaryship of the Queen's University has been filled up by the election of George Johnstone Stoney, Esq., A.M., late Professor of Natural Philosophy in the Queen's College, Galway.

The Ordinance regulating the Examinations for the current year is appended to this Report.

Appendix
IV.

The following papers, relating to this University, are also annexed for your Excellency's information.

A return of the Medical Schools which have reported to the Senate.

Appendix V.

Estimate for current year.

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VI.

Cash account for year ending 26th June, 1857.

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VII.

List of Examiners elected 16th July, 1857.

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VIII.

Return of the several meetings of the Senate since last Report.

Appendix
IX.

I have the honour to be
Your Excellency's

Obedient and faithful Servant,

MAZIERE BRADY,
Vice-Chancellor.
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APPENDIX.

APPENDIX I.

Public Meeting

PUBLIC MEETING OF THE QUEEN'S UNIVERSITY IN IRELAND, held in Dublin Castle, on the 7th October, 1856.

After the close of the examinations of the year 1855, a public meeting of the Queen's University was held in Dublin Castle, on the 25th of October, 1856, for the conferring of degrees and diplomas.

A large number of distinguished persons having taken the place in the Examination Hall, the Senate of the University, the Professors and Bachelors, and the candidates, attended it in procession.

The Vice-Chancellor, attended by the Secretary, then presided in the entrance of the hall, and conducted his Excellency the Lord Lieutenant to the chair set apart for him.

After all were seated, the Vice-Chancellor rose and addressed the assembly in the following terms:—

In regarding the proceedings of the annual meeting of the Queen's University for conferring degrees, I regret that I am not able to announce my increase on the present occasion in the number of those who have sought this distinction, as compared with the numbers who attended here for the like purpose in former years. At the examinations, which have just been concluded, the examiners have found that there are eighteen of the candidates qualified for admission to the degree of Bachelor of Arts, five to that of Master, one to that of Bachelor of Laws, and two for the grant of our Diploma of Elementary Law. In the Medical Faculty eight gentlemen have been reported in the senate as having duly passed the final examination for the degree of Doctor of Medicine, and seven have passed the first examination regulated by our ordinances on the part of students seeking that degree, and who will, I trust, be found among the successful candidates for it in a future year. The Senate has confirmed these reports of the examiners, and the degrees and diplomas thus obtained, as if the names awarded to the successful competitors in the respective classes, are now to be conferred and distributed accordingly. We have also, under the powers of our charter, agreed to admit to our various degrees some graduates of other universities, among whom I am very happy to observe one of the Juris Doctors of Trinity College, who has desired to be received with our degree of Doctor of Laws. When I in the former last year of opening the proceedings of our annual assembly, I took leave to allude to the observations which I had made on former Sirs Secretaries, regarding the results produced by our associated colleges, the special character and arrangements of these institutions, and the office of this University in connection with them, and I alluded to some additional topics which appeared to me to be of public interest and importance, as bearing on those objects and illustrating their value. I can now add nothing of general import to the observations which were then submitted to the public, and I will not attempt to occupy the time of this distinguished assembly by remarks which would probably be made of merely formal repetition. I shall only notice the distinguished success of one of the students of our colleges, and a gentleman of this University, at a recent examination held at King's College, London, for appointments to the Artillery and in the Royal Military Academy, Mr. John Allen Miller, who obtained first place for admission to the academy in a numerous list of competitors from very many universities, colleges, and universities of learning in Great Britain and Ireland, and had the highest number of marks for his answering, of all the candidates, both those for provisional commissions and those for admission to the academy. I congratulate

him this young gentleman, and the professors of the Queen's College of Dublin, of which he was a student, on this successful result of his studies and of their instruction, and I trust that his example will prove of high encouragement, as well to his fellow-students of the North, as to those allied with them in the same learned and honorable pursuit in the south and in the west. It is now my office, as Vice-Chancellor of the University, in the regulated manner of our Chancellor, the Earl of Clarendon, to confer the degrees and diplomas of the University on those to whom they have been awarded; but I have taken leave, on behalf of the senate, to admit the Lord Lieutenant, who has honoured the assembly by his presence, that he will be graciously pleased to assist in our proceedings, by distributing to the more distinguished candidates the medals and honours of which they have been declared entitled, and many of whom, as I learn from this report of our examiners, have earned these rewards by answering of the highest order. The University has generously been pleased to consent to my request.

The candidates were then called up in order, and the Vice-Chancellor conferred upon each the degree or diploma which had been conferred by the Senate. His Excellency the Lord Lieutenant was graciously pleased to distribute to those to whom prizes had been awarded the diamonds which they had won.

The business of the meeting having been brought to a close, the Vice-Chancellor addressed his Excellency the Lord Lieutenant as follows:—

May I please your Excellency?—For the past year has been placed to take in our proceedings of this day, the gentlemen here with which you have placed this apartment at our service, and for the honour you have conferred upon our year previous here, I beg to be permitted to return the grateful thanks of the Senate of the Queen's University. At our last annual meeting I ventured to express the sentiments we felt, that from your Excellency we should receive the same kind and constant recognition, the same generous encouragement, and the same energetic support which we had theretofore experienced from your predecessors in your high office. These assurances have been amply confirmed, and we look with confidence to the continuance of the same good and generous offices as long as it shall please her Majesty to invest in your care the administration of the government of Ireland. In this concluded session your Excellency has again given the benefit of your high station to the important principle of comparative examination, on which I took occasion to make some remarks at our last meeting, by submitting to that test the election of a professor of the Celtic language for the Queen's College of Galway. I believe that the result of the examination has been perfectly satisfactory to your expectations, and to those of the authorities of the College; and I look to such examples, and to the evidence so given, of the general favour taken by your Excellency in the welfare of our institutions, as affording the highest encouragement to their students and to those who are yet but preparing for entrance on a collegiate career. I had hoped it would have been our privilege on the present occasion to present to your Excellency's notice a good increase in the list of candidates for our degrees. The average numbers of the successful students in the Queen's College, as returned to me by their respective Principals, should warrant the expectation that a much larger proportion

of them would seek the degree of the University, than we have hitherto found to be candidates for them. In truth, the number of such candidates ought, from those returns, to be nearly triple, if not quadruple, the actual sum of them; and we cannot but feel concerned that this expectation has not been fulfilled. It is our duty, however, to consider if any cause within or without have tended to produce the actual result; and upon this subject I am assisted by many, whose opinions are of great value, that, in endeavouring to give to our degree an importance character and value in public estimation, an evidence of superior learning in their possession, we have aimed at too high a standard of requirements, and involved our students in courses of preparatory study too arduous and oppressive for a complete pursuit of them in the allotted time; so that, having regard to the average capacities of youth, it is by many deemed to be impossible, within the period of their collegiate term, to attain an adequate stage of preparation for the prescribed examinations. If this be so, and that numbers have been, as we are told, deterred from commencing these examinations from serious apprehensions of failure, it is no doubt, the duty of the Senate to reconsider its procedure, and remodel ordinances which may so tend to bar industrious men, of fair acquirements and average intelligence, from attaining the ultimate end of their collegiate labours; taking care, however, at the same time, not to lay down so insignificant a rule of study as to give encouragement either to laziness in the professors or idleness in the students. Should the Senate, after full and mature consideration, determine so to revise their examination ordinances, it will be their duty to submit the result of their deliberations for your Excellency's approval, pursuant to the terms of our charter; and we hope that in any recommendations we may so present, we shall have the good fortune to obtain the high sanction of your learning, judgment, and experience.

His Excellency the Lord Lieutenant then rose and said—

My Lord Chancellor, my Lords and Gentlemen.—I am exceedingly happy, after the lapse of a smooth and prosperous year, in which some few have resisted at home and abroad, to have the opportunity of again meeting in the Queen's Castle of Dublin this representative assembly of the Queen's Colleges in Ireland, and to congratulate those who have proved themselves qualified for degrees and entitled to honours upon the various fields of the penology of this day have stamped upon their brows with useful labours. I have referred to the auspicious prevalence of foreign and domestic peace, but you may be reminded by the summary and results of your own labours that peace rest not, in any department of our national or individual existence, every wish is the notion of inactivity or sluggish repose. Indeed, I do not know whether in all the fields of intellectual and moral exercise a period of peace does not even seem to call for more sustained and strenuous efforts. We are told that peace

has her victories as well as war; and if she has her victories, you may be sure she must also have her labours and her conflicts. The energies of you, young Irishmen, are not now needed, like those of many of your countrymen, to make the pomp of the Roman, or to house yourselves within Solomon's; but you have already wisely recognised that life has something else to do than to be in the sun or to bask by the fire-side; and if it be true—upon which I now, of course, pronounce no opinion—that the standard of examination to which you lately submitted yourselves has been pitched already too high, that only confers greater credit on those who have successfully emerged from it. Upon the topic of peace which I have touched you will remember that the sword of the great war immediately before the last in Europe had already died away when steamboats began to ply, and steam-engines to work in a thousand trades, and railways to spread their iron lines, and gas to stretch out its threads of fire, and the electric telegraph to race with the lightning, and the blessed application of alcoholism to massage, or, to abolish pain. Now, the several studies through which you have all passed will not guarantee you all singly becoming Watts, or Falmes, or Westons, but it is their aim and object, rightly understood, to keep up and carry on, to say the very least, the processes of past research and discovery at their highest level of efficiency, and to maintain that general tone of high acquirements and intelligence—of noble ambition and ambition, out of which kindred sparks may be struck and further victorious soldiers. Proof has been given within the year that has now concluded of the aptitude of the rising youth of Ireland for post-graduate disputation and brilliant success, of which I am happy to find one of your own colleges has afforded an honourable instance; and if, as was, perhaps, natural, the older University of our land lay, in power of numbers, seemed to lead in the race, I feel confident that your younger sistered institutions will find that they have only to make immense efforts, which they owe to their country, not to be distanced in the future. Many of you when I now address, and into some of whose hands I have just laid the high satisfaction of delivering the well-earned marks of success and honour, will, possibly, soon be dispersed over different scenes of action, and transferred to new avocations. Be pleased, then, to remember, my young friends, that the business of education does not terminate with the college class or with the professor's lecture, but that every day of your lives may add to your knowledge, and every moment of time may promote your improvement. Strive always for the highest exercises of usefulness, for these men may aim at; but be content with any opportunity of exerting them, for these God most desires for you. I know not how many of you may become great, but I feel sure that all of you may make yourselves good and happy.

The assembly then separated.

APPENDIX I.
Public Meeting.

APPENDIX II.

EXAMINATION FOR THE DEGREE OF A.M.

25th September, 1856, 10 o'clock, a.m.

COURSE II.—ENGLISH PHILOLOGY AND CRITICISM.—
Examiner, Geo. L. Craik, A.M.

1. Sketch the plot of any one of the following plays of Shakespeare—*The Tempest, Merchant of Venice, As You Like It, Winter's Tale, Measure for Measure, Twelfth Night, Lear*.

2. Write a critical examination of any one of the above plays, embracing the conduct of the fable, the characters, and the poetry (both in the spirit and in the expression).

3. Give an account either of Spenser's *Shepherd's Calendar*, or of his *Colin Clouts Come Home Again*.

4. Compare the spirit and manner of the poetry of Shakespeare and Milton with that of Dryden and Pope.

5. Give some account of the works of any one or more of the following writers—Chaucer, Spenser, Shakespeare, Bacon, Milton, Dryden, Pope, Burns.

6. Give some account of the works of any one or more of the following writers—Scott, Byron, Moore, Campbell, Keble, Wordsworth, Coleridge, Shelley, Robert Southey, Dr Keble, Carlyle, Manning, Keble, Dickens, Thackeray.

7. Explain what is meant by strong and weak verbs; and state the considerations, or some of them, from which it has been inferred that the distinction is a natural one in our language.

8. Explain what is meant by the distinction between

APPENDIX III.
Examination for the Degree of A.M.
Group II.

Appendix II. **Examined and strong nouns in the Gothic language, and how it is connected with what is called the declension, and with the definite and indefinite cases of the adjective.**

Examined for the Degree of A.M.
Georg II.
3. State and account for the changes of signification which the following words have undergone since the language has assumed its present form:—*Sed, tell, let, ever, present, proved, appeared, creature, conversion, reason, reward, expression, deked, letted, to fear, cure, dear, inferior, been, great, full, impious, quick, kindly, willing, temperance, experiment, Dutch, necessity, disagreeable.*

26th September, 1856, 2 o'clock, p.m.

COURSE II.—ENGLISH PHILOLOGY AND CRITICISM.—
Examiner, Geo. L. Craik, M.A.

1. Give an account of the sources that exist for the text of *Shakspeare's Plays*; and enumerate his principal editors and commentators, with such remarks as your acquaintance with them may suggest.

2. Explain the following passages from *Shakspeare* :—

"There be fads alive, I wis (?),
Silverd's—*Merchant of Venice.*

"Yet she wished
That heaven had made her such a man."—*Othello.*

"If ever my will did trespass 'gainst his love
Either in discourse of thought or actual deed."—*Othello.*

"If you do meet Ikerio and Marcellus,
The rivals of my watch, bid them awake haste."—*Hamlet.*

"What might be toward, that this twenty hours
Doth make the night joint labourer with the day?
Who let that sun inform me?"—*Hamlet.*

"The moist star,
Under whose influence Neptune's empire stands,
Was sick almost to dooming with eclipses."—*Hamlet.*

"Ties no planets strike,
No fairy takes, nor witch hath power to charm."—*Hamlet.*

"O Heaven! a head, that wants discourse of reason,
Would have mourned longer."—*Hamlet.*

"Would I had met my dearest foe in heaven
Ere I had ever seen that day, Horatio."—*Hamlet.*

"For nature, evenness, does not grow sleek
In show and look; but, as this tender voice,
The inward service of the mind and soul
Goes wide awake. Perhaps he loves you now;
And now no self nor mutual doth betray
The virtue of his will; but you must fear,
His greatness weighed, his will is not his own."—*Hamlet.*

"What if it tempt you toward the dead, my lord,
And there accuse some other horrible form,
Which might deprive your sovereignty of reason,
And draw you into madness?"—*Hamlet.*

"By Heaven, I'll make a ghost of him that lets me."—*Hamlet.*

"Unhumbled, disappointed, unsexed."—*Hamlet.*

"What is a man,
If his chief good, and market of his time,
Be but to sleep and feed? A house, no more.
Sure, he that made us with such large discourse,
Looking before and after, gave us not
That capability and godlike reason
To fast in us seated."—*Hamlet.*

3. Sketch in outline the life of Chaucer, or of Spenser, or of Bacon, or of Shakspeare, or of Milton, or of Pope, or of Swift, or of Sir Walter Scott.

4. Define the meanings of the following words from their etymologies:—*Candidate, elms, dukes, print, monk, minister, preach, artery, count (title of dignity), also, Arrears, sargons, extra-sensory, collige, universality, materiality, infant, journal, patience, position, expedition, miscreant, extasy, hypocrisis, misogyne, protest, fade, doubt, dead, kind.*

27th September, 1856, 10 o'clock, a.m.

Locutor.—Examiner, Professor Magill, M.D.

1. Hold fast three grand axioms in the progress of human reason.

2. "Speculative philosophy," Mr. Mansel observes, "has had three great periods, each of which has been accompanied by a critical system, of which Formal Logic has been a consistent portion." Illustrate this.

3. The period at which the Scholastic philosophy may be said to have commenced, is a point of considerable dispute. When, and with whom, did the reaction against the Scholastic logic begin? When, and where, do we find the first distinct recognition of Bacon's influence on the progress of science? In what relation do the *Organon* of Aristotle and the *Organon* of Bacon stand, according to Hamilton?

4. What is Aristotle's definition of induction? What figure of the deductive syllogism does it resemble, and what is the distinction? The Aristotelian induction proper has been described as an analytical, and its counterpart, syllogism, as a synthetical process: explain this.

5. What principle, according to Gillies, is the foundation of all Aristotle's logic? How do you explain the remark, that we may regard the *Genus* as a part of the *Species*, or the *Species* as a part of the *Genus*? How is the dictum de omni sanctioned by Leibnitz? How by Kant? What were the three great principles of the logic of Leibnitz?

6. Does it derogate from the importance of Bacon's philosophical precepts, that mankind have practiced many of them immorally? Hamilton cites a striking example of genuine induction anterior to Bacon's precepts. What service did Bacon render to intellectual philosophy?

7. Who were the Sceptics and Theorists; and what views did they respectively maintain in the Realist controversy? Hobbes is called by Leibnitz *philosophus Nominatilis*; why? Explain and criticize the following passage:—"Between Nominatium and Conceptualism there is no real difference, unless in conjunction with the latter we maintain the power of the mind to form Universal notions, unaided by verbal or other symbols.—The fundamental error of Hobbes and his followers is not their doctrine of universal terms, but their theory of the import of propositions." State and criticize Hobbes' theory of Predication. Who founded the Conceptualist sect; and what was their error?

8. By whom were the specific uses and laws of the several syllogistic figures first stated? Name the several dicta. What is the essence of the second figure, according to Hamilton? The fourth figure has been objected to on different grounds.

9. What is the formula for ascertaining the number of possible conclusions in a Sorites? Describe and illustrate the Geolomian Sorites.

10. What is Hamilton's Table of Judgments; and why is it objected to? By what kind of argument does Hamilton endeavour to show that "the thorough-going quantification of the predicates is not only systematic but indispensable?"

11. What are indirect, and what are imperfect syllogisms? How did Kant distinguish syllogisms of the understanding from syllogisms of the reason? Can this distinction be philosophically or logically maintained?

12. How did the *Enallagma* and *Enallagma* of Aristotle differ from the modern hypothetical syllogism? How does Aristotle always use the word "hypothetical?"

13. Give Aristotle's definition of Enthymeme, and explain the Greek terms employed? Whately adopts a similar division of arguments. What does Whately mean by the *Argument from Probable* Approach? Give an illustration.

14. Compare Mathematical and Moral reasoning with reference to their respective advantages as intellectual exercises.

15. With respect to the explanation of the phenomena of nature, Mill notices two erroneous extremes—*undue simplification and redundancy*. What philosophers does he cite as exemplifying these errors? Do you remember any corresponding errors in metaphysical

systems? Bacon alludes more than once to a certain *summary law of nature*: how does he describe it? What, according to Mill, is the ideal limit of the explanation of natural phenomena?

16. The Deductive Method consists of three operations, of which the Hypothetical supposes one. State fully the conditions of a legitimate hypothesis, making reference to the difference of opinion between Whewell and Mill on this subject. What did Newton mean by saying "hypotheses non fingo"?

17. To what formula does Mill reduce analogical reasoning; and how does he distinguish it from real induction? In his analysis of the circumstances on which the force of an analogical argument depends, he takes as an illustration the question of the Plurality of Worlds, and remarks—"Viewed in this light, all the resemblances which exist (between the moon and the earth) become presumptions against, not in favour of, the moon's being inhabited." Explain this.

18. What did Bacon mean by a *self-corrective* and a *self-improving* chain of evidence; and what is the method of computation in each?

19. Define Chance. What do you mean by an event occurring by Chance? How do Whately and Mill account for the fact that Chance or Fortune has come to be vulgarly regarded as a real agent? With what maxim of necessary truth in the organic world does Whewell compare the maxim, "Nothing happens by chance?" What is the fundamental conception of Organization?

20. What, according to Whewell, was the radical and vital defect in the physical speculations of the Greek philosophical schools? Conceptions, according to Whewell, to be relevant to induction, must be characterized by two qualities; state and illustrate them.

21. Why does Whewell denigrate Space, Time, Cause, &c., *Ideas*? "Each science has for its basis a different class of ideas;" how does Whewell illustrate this in the several sciences? Whewell says, "Observed facts are connected so as to produce new truths, by superinducing upon them an idea;" have you any criticism to offer on this?

22. Inductive truths are of two kinds, according to Whewell. How does he illustrate the distinction? How does he differ from Mill on this subject? What is the most general distinction between Whewell and Mill with respect to scientific Classification?

23. What was Bacon's "capital error," according to Mill? What assumed principle constitutes the basis of Descartes' philosophical system? How does Mill criticize it?

24. Mill refers to a common origin the Ideal theory, the theory of the Pre-established Harmony, and that of Occasional Causes.

25. What is Mill's critical examination of the maxim associated by Condorcet, in his review of Locke: "*Pour ce qui est vrai de l'effet est vrai de la cause*"?

26. The favourite argument of the Scotch metaphysicians against Berkeley's Idealism is, according to Mill, an *equivocal* sleight.

27. What was Hobbes' solution of the famous sophism relating to the infinite divisibility of Space? In support of what philosophical tenet was this sophism originally proposed?

27th September, 1855, 2 o'clock, p.m.

METAPHYSICS.

Examiner, Professor Moffatt, LL.D.

1. What, according to Mill, is "the grand question of what is called metaphysics?" How does Kant account for the fact that metaphysical science has not advanced in the same manner as the higher branches of physics, logic, &c.? On what grounds does he maintain that such a science is possible; and what are its foundations?

2. Greek philosophy, taken as a whole, divides itself into two principal evolutions. Name the limits of the period of its greatest activity.

3. Explain the following terms—the *energeia* of

the Pythagoreans; the *logos* of Anaxagoras; Aristotle's *epistēmē* of Epictetus; *archē* of Aristotle; *epistēmē* and *deixis* of the Stoics. How does Cicero translate the two last terms? What was the great principle of Plato's metaphysical system?

4. Who are the principal representatives of the Eleatic metaphysical and physical schools respectively?

5. How do you explain the sentence of Cicero: "*Socrates prius philosophum docuit e esse*." &c.? To what original authorities can you refer for the philosophy of Socrates? Name the most eminent Sophists. Very different opinions are entertained respecting the character of the Sophists by distinguished historians of the present day. What, according to Grote, were their real objects, and what the true cause of the condemnation of Socrates?

6. Point out the generic and essential difference in Aristotle's definition of Virtue. How do you explain the remark of Aristotle, that, in moral applications, the mistake is made much easier in the particular minor than in the universal major premise? How do you understand the remark, "Aristotle never lost the moralist in the accountant"?

7. What were the fundamental principles of the Stoical morality? Who were the most eminent Roman representatives and exponents of Stoicism?

8. From what philosophers did Epicurus borrow the physical, and from whom the moral part of his system? By what celebrated poet was the system expounded, and when? What eminent modern philosophers revived the Atomic hypothesis?

9. Name the most eminent of the ancient Sceptics. Upon what principles did they found their system? To what original authorities can you refer for their reasonings? We find in their remains a remarkable anticipation of Hume's reasoning on the subject of Causation.

10. In the sixth century we find considerable intellectual activity among the two races that possessed the military predominance—the Franks and the Saracens. By what distinguished sovereign was this activity encouraged. How were Avicenna and Averroes connected with the progress of the Aristotelic philosophy?

11. Of the philosophical movement which succeeded to Scholasticism there have been three principal centres: name them; and the three philosophers whom you consider to be the truest types of the national minds.

12. To the philosophy of Descartes, it has been said, are due the central doctrines in the systems of Malebranche, Spinoza, and Leibnitz: trace the connection. State, generally, the principal articles of the Cartesian philosophy.

13. What was the chief object of Leibnitz's "*Notioness Essais*?" What, according to Leibnitz, was the capital error of the Cartesians? How did he employ the principle of Sufficient Reason? This principle, according to Hamilton, may be understood and applied in three different ways.

14. According to Berkeley, the chief source of the existing philosophical errors and perplexities was the notion that the mind has the power of framing abstract general ideas: how were Berkeley's views on this subject connected with his general system? What arguments of Hamilton does Berkeley employ with respect to the qualities of body?

15. Macintosh says that Hume aimed at proving, "that, from the structure of the human understanding, we are doomed for ever to dwell in absolute ignorance." What was Hume's celebrated dilemma to show the contradictory conclusions of the human intelligence? What, according to Hamilton, is the proper way of regarding, and of replying to, the scepticism of Hume?

16. Kant's Division of the faculties of the mind violates the two great logical rules of division? What element does he omit essential for the development of knowledge? What is the radical inconsistency of Kant's system?

17. What was Leibnitz's principle of the Identity of Indiscernibles; and how is it refuted by Kant?

18. What is the exact position of the Antinomies in Kant's system? Is the logical law of Contradiction ap-

AVICENNA II.
—
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Group II.

pleads to them? Cite an illustration; and state whether you think these contradictions really exist?

19. The argument respecting Liberty, according to Bentham, runs up into an antagonism of incompatibilities; explain this. Of the *fact* of liberty, however, we have a twofold proof. The difficulties of the Free-will controversy have been increased by the ambiguity of certain terms: name these terms, and their various meanings. How do you understand the remark of Taylor, that "an extension of a man's power may be the means of diminishing his liberty?"

20. Professor Fitzgerald says that the distinction between primary and secondary qualities "though still maintained by many metaphysicians of great name, has been," he thinks, "abandoned by the majority, and extension and solidity considered as no more qualities, *in se*, than heat or colour." State briefly your views on this subject. On what principle did Locke distinguish primary from secondary qualities? In what ancient schools of philosophy do we find analogous distinctions? What did Locke mean by "qualities mediately perceivable"? Hamilton identifies this distinction of qualities with another remarkable one in mental philosophy; and carries both up into one general law.

21. What are the two "Paradoxes of Value," and what solutions of these have been proposed? What was Hume's hypothesis of the *Advantages*?

22. ——— "telle que croit le plus l'indolence." "Quel volume facile amusement?" opposite opinions have been held with respect to the truth of these maxims: give a psychological account of what you conceive to be the true state of the case.

23. Enumerate the various principles that have been assigned to account for Moral distinctions. How would you distinguish the Moral emotions from the Esthetic? In what respect do the pleasures of Imagination agree with the Moral Sentiments? State precisely what you mean by actions, when you say they are the object of the moral faculty.

24. The opposite moral schools of antiquity have had their antagonism prolonged into modern times. A distinction has been drawn between the selfish and Utilitarian systems; whom would you name as representatives of each? What is the defect of these systems? State Hobbes' definition of Virtue and of Right. Locke's definition of moral Good and Evil would seem to be favourable to the selfish theory of morals. What is Bentham's analysis of the moral faculty? To what circumstances does Owen's *Disquisition on the Nature of Virtue*?

25. What is Hamilton's Law of the Conditioned? How does he distinguish the Unconditioned from the Infinite? He reduces the opinions respecting the Unconditioned to four; name them, with their respective authors.

26. Mention some of the most remarkable theories that have been held with respect to the Beautiful. Some philosophers have endeavoured to discover a certain *objective* quality as the foundation of the Beautiful; have they been successful? In what did Burke place the essence of Beauty? Is he justified in rejecting utility from his conception of the constitution of Beauty?

29th September, 1856, 10 o'clock, a.m.

JURISPRUDENCE.—Examiner, T. E. Cliffe Leslie, LL.B.

1. Give a historical, as distinguished from a philosophical, account of the origin of the institution of private property.

2. Give a philosophical, as distinguished from a historical, account of the foundation of the right of property.

3. State the principal arguments for and against Poor Laws.

4. Give a brief historical sketch of the English Poor Law system.

5. The laws of bankruptcy and insolvency have two main objects?

6. "The laws of debtor and creditor will not have

established their proper sanction if they require to be often practically enforced."—(Bentham.) Show how each law may be defective in this respect, and the *inferior* consequences of the defect.

7. State the principal advantages of a good legal system of enforcing the performance of contracts.

8. "The Romans had edile officers of high authority, whose jurisdiction over the structure of edifices was supreme."—(Bentham's *Political Economy*.) To what extent, if any, and for what reasons, should building regulations of this kind be permitted, in your opinion?

9. State the principal arguments in favour of allowing individuals to dispose of their property by will.

10. Should the power of testamentary disposition be subject to any, and if any, what kind of limitation, especially in the case of property in land?

11. State the chief arguments for and against the right of primogeniture.

12. "Since we thus assign," says Savigny, "an invisible origin to positive law, we must abandon every documentary proof of it. But of proofs of another kind there is no want." What are the proofs which he alludes to?

29th September, 1856, 2 o'clock, p.m.

POLITICAL ECONOMY.—Examiner, T. E. Cliffe Leslie, LL.B.

1. In what cases is value regulated by cost of production, and in what cases is it not?

2. Prove that in the cases in which value is regulated by cost of production, the law that value depends on demand and supply holds good.

3. a. Does a rise in the price of provisions during a given year tend to raise or lower money-wages during that year?

b. Does a rise in the price of provisions during a number of years tend to raise or lower money-wages in subsequent years?

4. If it be true that competition brings the price of labour to its proper level, how is it that workmen in large cities earn higher wages than workmen of equal skill in country towns?

5. Economists generally divide gross profit into interest, wages of superintendence, and insurance. Is there any standard by which an English capitalist can estimate how much of his gross profit is to be set down as mere interest on his capital? Is there any portion of the remainder which cannot properly be set down as either wages for the trouble of superintendence, or insurance against risk? If there is, what is the name of the surplus?

6. State, succinctly, Mr. Senior's theory of the causes which regulate the general rate of profit in a country, and show that it is defective.

7. Mr. Senior says: "The prolongation of the period of advance of the capital employed in the production of the commodity which the labourer does not consume is utterly indifferent to him." State your reasons for considering this proposition true or false.

8. "Suppose England can produce an article for £100, and can import it for £50, by importing it, instead of producing it, she gains £51, and loses £100."—("Sophisms of Free Trade.") Prove the absurdity of this statement.

9. Trace the incidence of a tax—

a. On the sale of old houses.

b. On the sale of new houses.

c. On the rent of houses.

10. Is it true that "a general tax on profits must be borne by capitalists alone, and cannot affect any other class?" If it is, prove it to be so; if it is not, prove that it is not.

11. In what cases do instruments of credit tend to economize the use of money, and in what cases do they not?

12. a. What are the causes which regulate the natural amount of the currency of a country?

b. If that amount is exceeded, how are the trade of exportation and importation, and the exchange, affected, if at all?

23th September, 1895, 10 o'clock, a.m.

PURE MATHEMATICS.—*Examiner, George Boole, LL.D.*

1. Three being given the amplitudes, by the compass, of a known star at rising, and the latitude of the place of observation, show how the variation of the compass may be determined.

2. Deduce an expression for the length of a straight line, bisecting the angle C of a triangle whose sides are a , b , c , and terminating in the opposite side.

3. Solve the equations

$$x^2 - 2xy + 3y^2 = 4, \quad y^2 = 0$$

$$x^2 + xy + y^2 = 51.$$

4. Explain the construction of a table of natural sines.

5. Show, geometrically, how to draw a tangent to an ellipse at a given point.

6. Prove that the area of the triangle, included between any tangent and the asymptotes of an hyperbola, is constant.

7. State the converse proposition, and apply to its demonstration the method applicable to problems on envelopes.

8. Find the equation of a curve, the value of whose subnormal is expressed by the function $1 + \sin^2 \theta$, where θ represents the corresponding abscissa.

9. How are the terms *sinuosity* and *edge of regression* employed in reference to the generation of surfaces?

10. Show that the envelop of the plane, represented by the equation $x + ay + a^2 y^2 = a^2$, is a developable surface; and find the nature of the curve in which its edge of regression is projected on the plane xy .

11. Prove that $f\left(\frac{d}{dx}\right) \cos (nx + n) = f(-n^2) \cos (nx + n)$, and apply the theorem to facilitate the integration of the equation $\frac{d^2 y}{dx^2} - a^2 y = \cos (nx + n)$. Examine particularly the case in which $n = a$.

12. Explain the connection which exists between partial differential equation of the form $f(x, y, z) = 0$, and developable surfaces.

13. Integrate the partial differential equations $x^2 + y^2 = 1$, and $z = ypp$.

23th September, 1895, 2 o'clock, p.m.

PURE MATHEMATICS.—*Examiner, George Boole, LL.D.*

1. How may the theory of maxima and minima be applied to the discussion of the roots of equations? Employ it to show that all the roots of the equation

$$a \frac{d^2}{dx^2} - \frac{d}{dx} - \frac{d}{dy} = 0$$

2. Determine the position of the asymptotes of the hyperbola represented by the equation

$$\frac{x}{a} - \frac{y}{b} = 1.$$

3. Reduce, by rectangular transformation, the above equation to the form $Ax^2 + Cy^2 = 1$.

4. Show that the envelop of the series of curves represented by the equation of problem (2), when a and b are subject to the condition $a^2 + b^2 = 1$ will have for its equation $x^2 + y^2 = 1$.

5. What curve will be represented by that equation; and how will it be situated with respect to the curves of which it constitutes the envelop?

6. Define, generally, the three families of cylindrical, conical, and conoidal surfaces. To which of them would the surfaces, represented by the equation $xyz = (x-1)^2$, belong.

7. Given to magnitude and position any two conjugate diameters of an ellipse, show, geometrically, how to determine the magnitude of the principal diameters.

8. If $V = 0$ be the equation of a series of curves, specially determined by giving particular values to a parameter θ involved in V , show that the differential

equation of the orthogonal trajectory of the series will be found by eliminating θ from the equations.

$$V = 0, \quad \frac{\partial V}{\partial x} + \frac{\partial V}{\partial y} = 0$$

9. Prove that the value of the definite multiple integral

$$V = \int_0^1 \int_0^1 \frac{dx dy}{(x^2 + y^2 + 1)^2}$$

where $x, y, \dots$ admit of all possible values consistent with the assumption that $x, y, \dots$ are within given constant limits, will be expressed by the formula

$$V = (-1)^{n-1} \frac{\pi^n}{\Gamma(n)} \int_0^1 dt \, t^{n-1} \left(\frac{d}{dt} \right)^{n-1} f(t)$$

where $x = \sqrt{1-t^2}$, $y = \frac{1-t^2}{t}$, and $f(t) = 0$ when t transgresses the limits of $x, y, \dots$

10. Making in the above $n=1$, $t=\frac{1}{2}$, $\pi=1$, and $f(t) = \frac{1}{\sqrt{1+t^2}}$, show that we obtain a result virtually involving the reduction of elliptic integrals of the first order.

11. State some of the different groups which exist for assigning to the function which expresses the law of facility of error in the theory of astronomical observations, the form e^{-kx^2} , and determine the necessary values of k .

12. Deduce from this law the method of least squares, and apply it to deduce the values of x and y from the equations

$$\begin{aligned} x + y &= 6 \\ 2x + 3y &= 7 \\ 4x - y &= 10. \end{aligned}$$

23th September, 1895, 10 o'clock, a.m.

MIXED MATHEMATICS.—*Examiner, G. Johnston Esq., M.A.*

1. If the molecules of a fluid within a closed space repel each other inversely as the square of the distance, show that the surface field will average itself near the surface.

2. Reduce the determination of the attraction of an uniform ellipsoid on an external point to a simpler problem.

3. If a rare atmosphere surround a centre of force attracting inversely as the square of the distance, and rotate round an axis passing through this centre; investigate the maximum ratio which the axis of its surface can bear to one another.

4. The end of a string coiled round an uniform cylinder is attached to the top of an inclined plane, and the cylinder is allowed to roll down in obedience to gravity; investigate the tension of the string during the motion, neglecting friction, rigidity, &c.

5. Find at what point, in what direction, and with what velocity, a perfectly elastic body of the same mass as the moon should strike her to arrest at once her motion of revolution and of rotation, supposing the surface of the moon to be perfectly rough.

6. Show that there is always a loss of vis-viva by impact. What is the work usually done by the vis-viva thus lost?

7. Describe, without entering into details, the method by which the three fundamental equations for the rotation of a solid round a fixed point are deduced.

$$A \frac{d\theta}{dt} = (B-C) p + L.$$

$$B \frac{d\phi}{dt} = (C-A) q + M.$$

$$C \frac{d\psi}{dt} = (A-B) r + N.$$

8. Define Poisson's central axis of moments, and determine its position.

APPENDIX II.
—
Examination
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of A.M.
Group III and
Group IV.

9. Calculate the radius of gyration of a given ellipsoid of uniform density round one of its principal axes.

10. Inverted, the motion in a vacuum of an uniform bar, 8 inches long, struck squarely while lying horizontally by a blow, the amount of which would the centre of the bar is given, and which strikes it at a point 2 inches from one end.

11. If any number of particles actuated straight, with forces varying directly as the distance, prove that each will describe an elliptic orbit.

12. Show how far the principle of areas, and the principle of vis viva, help us to the solution of dynamical questions, and to what classes of questions they are respectively applicable.

24th September, 1856, 2 o'clock, p.m.

Mixed Mathematics.—Examiner, G. Johnston Stoney, A.M.

1. Enumerate the steps of the process by which the mean density of the sun has been determined.

2. Show that the mean distance and periodic time of the moons are both increased by the sun's disturbing action.

3. In working out the lunar theory to the second order, state what terms of a higher order must be retained, and why.

4. Write down the term in the expansion of the moon's longitude which expresses that her orbit has an apsidal motion, and describe how this term arises in the investigation.

5. Prove that, going to the second order, the centre of gravity of the sun has been determined.

6. Show that, on the hypothesis of a circular orbit, the motion of the moon's nodes is given by the equation—

$$\frac{dN}{dt} = -3M^2 \cos(M-S) \sin(M-N) \sin(S-N)$$

where M , S , and N , are respectively the longitudes of the sun, the moon, and of the ascending node of the moon's orbit.

7. Investigate the coefficients for correcting the chromatic dispersion of the first and second orders by three lenses in contact.

8. Show upon what principles spherical aberration may be reduced in compound arrangements of lenses.

9. Investigate equations, the solution of which would give the illumination of a point on the moon's disk in the earth's penumbra in terms of its distance from the axis of the shadow.

10. Prove the fundamental equation for the pressure of the atmosphere—

$$\frac{dp}{p} = \frac{g}{A(1+ct)} \frac{dr}{(1+ct)}$$

in which g is the temperature and t the height of the stratum whose pressure is p , and r is the radius of the earth.

11. Prove the common formula for determining the position of the centre of pressure on a plane area.

12. Show from Ampère's theory of Electricity that the external action of a closed electric current is the same as that of a thin uniform magnetic stratum bounded by the current.

Physics.—Examiner, G. Johnston Stoney, A.M.

1. Describe a method by which the ratio of the electric tensions of two voltaic cells may be determined.

2. Describe some method by which the velocity of the electric current has been ascertained, and explain the wide differences in the results which have been obtained.

3. State Faraday's law for electro-chemical decomposition, and its limitations.

4. Describe the zinc and longest galvanometers, and prove the laws of their action.

5. State what you know of the influence of temperature on the magnetism of bodies.

6. Two equal conducting spheres, very unequally charged with the same kind of electricity, attract each other at one distance, and repel at another; whereas, if the charge be of different kinds of electricity, they always attract. Explain this difference in the mode of action.

7. Mention as many ways as you recollect in which the velocity of light has been determined by observation or experiment.

8. State the usual law for the absorption of light by coloured media, and mention any exceptions which occur to you.

9. What evidence have we that the direction of the vibration of light is perpendicular to the plane of polarization?

10. Describe the mechanism, and state the principles upon which it is constructed.

11. Enumerate the main points of resemblance between light and radiant heat.

12. Explain the formation of ice which occasionally takes place at the bottom of rivers.

13. By what experiments has it been shown that there is a limit of temperature below which some liquids will not evaporate.

14. The food may be placed with impunity in a jet of steam from a high-pressure boiler. How do you account for this?

15. By what arrangements has water been frozen within a red-hot vessel?

25th September, 1856, 2 o'clock, p.m.

Chemistry.—Examiner, J. Elphinstone, M.D.

1. Give the composition, its volume and in equivalents, of bicarbonate of nitrogen, carbonic acid, ammonia, and sulphuretted hydrogen.

2. Give, in symbols, the preparation of carbonic oxide from ferrous oxide of potassium.

3. Give some of the reasons for the formulae proposed for silicic acid, viz. SiO_2 and SiO .

4. What is the nature of a double salt? Why do sulphates of lime, magnesia, and zinc not combine to form double salts?

5. Give the preparation and properties of hypophosphite of soda.

6. What is the process for obtaining metallic aluminium? Give its properties.

7. Salts of silver, potassium of mercury, antimony, zinc, and aluminium, are in the same solution; how would you separate them from each other. Apply the characteristic reactions of each.

8. What is the nature of a mordant? Mention some of those most commonly used?

9. What part do the salts of the two oxides of tin play in dyeing?

10. How is tin separated from its ores?

11. Explain the qualitative mode of determining nitrogen by weight in an organic substance, by ascertaining the relative volumes of carbonic acid and nitrogen produced by combustion.

12. Explain the generally received theory of the formation of ether from alcohol.

13. Calculate the formulae of acetate of silver from the following data—

C	=	14.37
H	=	1.00
O	=	14.37
AgO	=	69.46
		100.00
Ag	=	108

14. When the atomic weight of an organic substance cannot be directly ascertained, the determination of its vapour density serves as a control, for the formula deduced from analysis: explain this.

1864 September, 1856, 10 o'clock, a.m.

BOTANY.—*Examiner, Dr. McNeill.*

1. Enumerate the various causes which give rise to irregularity in flowers, and illustrate by reference to the phenomena of development and malformation.
2. State the arguments that may be advanced in favour of the view that the *Gymnocarpia* are higher than the *Dicotyledons*; and, also mention the gymnocarpous family entitled to the highest rank.
3. Enumerate the types and sub-types of the *Cryptogamia*, and state their principal characteristics.
4. Describe the plants on the table in technical terms.
5. State the arguments for and against the doctrine of *specific centres*.

ZOOLOGY.

1. Affix the same numbers to the homologous parts of the vertebrae on the table.
2. State the general plan of embryonic development in the various types of *Invertebrata*.
3. Refer the specimens on the table to their respective orders.
4. Point out the distinctive characteristics of man.
5. State the arguments in favour of the specific unity of the human race; enumerate the varieties of man, and trace their distribution.

1864 September, 1856, 2 o'clock, p.m.

MINERALOGY, GEOLOGY, AND PHYSICAL GEOGRAPHY.
Examiner, J. Bente Jones, M.A., F.R.S.

1. What are the principal physical characters of minerals?
2. State the crystalline system, and chemical formulae of the following minerals:—*albite, labradorite, scapolite, mesotype, stilbite, or any other zeolite, hornblende, or augite, epidote, spinel, calc spar, kiesel, galena, malachite.*
3. What family of minerals is that, of which some

variety is an almost invariable ingredient of igneous rocks; mention the principal species of that family.

4. Igneous rocks may be divided into those which have consolidated at great depths, and those cooled at, or near the surface; arrange the most common varieties of igneous rock under these two heads, and state what conclusions you should arrive at from finding granite now at the surface of the earth, as to the former condition of that surface, and the changes it has undergone.

5. Why is it that, in cutting our eyes over the products of past geological time, we can arrive at these certain conclusions as to the relative age of any mass of stratified rock, from the examination of its organic remains, than that of its lithological structure?

6. Arrange the following fossils, in regular order of succession, under the head of their respective formations:—

<i>Ammonites Juvon.</i>	<i>Platystrophia quadricosta.</i>
<i>Cardium parvulosum.</i>	<i>Megastrophia cancellata.</i>
<i>Anserchya ovatus.</i>	<i>Pentamerus Knightii.</i>
<i>Urolo Valdensis.</i>	<i>Proterostrophia semicircularis.</i>
<i>Trypania gibbosa.</i>	<i>Spirifer glaber.</i>
<i>Oriskania antiqua.</i>	<i>Hippodamia ponderosa.</i>
<i>Fusus contractus.</i>	<i>Stigmaria flexilis.</i>
<i>Lirios gigas.</i>	<i>Vernicostea planicosta.</i>
<i>Encrinurus pentagonalis.</i>	

Append to each, also, the name of the great subdivision of the animal or vegetable kingdom to which it belongs.

7. Under what circumstances are mineral veins found to occur, and what do you suppose to be their origin and mode of formation?

8. Give an account of *Elie de Beaumont's* theory of the elevation of mountain chains, with your opinion respecting its merits and its truth.

9. Give a sketch of the physical geography of the British Islands, France, Spain, North or South America, India, Australia, or any other large country you may select, describing its latitude and longitude, its principal mountains, with the height of their summits, its principal rivers, prevailing winds, general direction of the currents of the neighbouring seas, its wet or dry seasons, and the general character of its climate and its soil.

EXAMINATION FOR THE DEGREE OF A.B.

1864 September, 1856, 10 o'clock, a.m.

LATIN.—*Examiner, Bannell Lewis, M.A.*

Translate any two of the following extracts:—

VIRGIL.—*ÆNEID*, BOOK II.

Litora erant cæcæque foras et portus omnes
Tentorum inter se prædæ, postaque relicti
A turge, infelix que se, dum regna morantur,
Sagittis Andromache ferre incognita salubet
Ad nocera, et ara pariter Atryanota trabant.
Evado ad summi fastigia celsæ, inde
Tela mora miseri lactabant irrita Teucri.
Turrin in præcipiti stantem cæcæque sub astra
Edictum totis, unde sonant Troia videtur
Et Danæiæ solas cæces et Achæia astra;
Aggredi ferro circum, qua sonant lobantes
Innotuit tabulata dabant, convellentes alio
Sedibus impellentesque.

VIRGIL.—*ÆNEID*, BOOK V.

Inde, ubi clava dedit sonitum tubæ, stridens cœces,
Haud mora, præliare aia; ferit ænthem clamor
Nectens, adflectis spemque freta vultu lacertis.
Infundit pariter rivos, totumque dehinc
Convulsam remis nostrisque tridentibus æquas.
Nec tac præcipites litige cœcæque equorum
Corripiente rursusque efficit curvae dorso,

Nec sic hominis aurigæ undantia læva

Contemneret ingens præcipue in verbera pendens.
Tum plausu fremituque viridis stadiisq; faventem
Cœcavit entre nervos, rorantem luctus volutant
Litore, palant colles clamore resiliens.

HORACE.—*SATURÆ*.

Imagis dæcæ adit, nil cum procedens litore
Sentiam, dæcæ cœcæque prædæ turba
An rursus præliisq; capis lumbosque colligens
Fatis delat: quarta vir domum exporitur hora.
Ora mæcæque tra lævas, Fœcæ, lævas;
Milla tunc prædæ tris repens atque subitus
Impositum aia læva cœcæque litore
Hæc venturus erat Næcæque optatum atque
Cœcæque, nisi magis de rivas uterque
Legati, ævenæ subit competeret ænthem.
Hic oculis ego alga meos colligis, lippas
Hinc . . . intus Mæcæque adit atque
Cœcæque, Capitiq; simul Fœcæque, ad ingrem
Factus hœc, Ait, non est magis alter, ænthem

HORACE.—*ART POETICA*.

Ut gratas inter membra symphonicæ discors
Et cœcum suggestum et hæc eam melle perarve
Offendat, potest duci quæ cœca sine læva;
Sic ænthem notum ignemque pœmæ lœvæ,
Si pœmæ notum dæcæque, vergit ad inter.

B 2

Examination
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Group A.
(compulsory).

APPENDIX II. Lefere qui nescit, egestatem abiecit arule,
Inductoque pilas ducit trochæe quiescit,
Ne spem rictus solent impare corosus:
Qui secum veniens tunc abdit ingens. Quid sit?
Libet et ingenuam, praesentis cunctis aspectum
Sancimus amantem, vixisse cunctis et omni.
Tu nihil levius dicit luctare Minerva,
Idcirco illud est, os meum.

Group A.
(complicity)

SALLUST—CAESAR.

Igitur his pueris, secus, elegantia prope aequiva
fatis; magnifico velut per, non gloria, sed sibi illi.
Caesar beneficis atque utilissimis magnam habebat,
integritate ultra Cato. Hic mansuetudine et moderat
cordia cunctis fuit, hinc severitas dignitatem addiderat.
Caesar danda, adhibendo, ingenuo. Cato ubi
linguando gloriam adeptus est. In altero ubi peragium
erat, in altero nulla pericula; hinc fortissimus, hinc con
stantia fortissimus. Postremo Caesar in cunctis
industriam habebat, vigilem; negotia antequam intenter
sua negotio, nihil digne, quod dno dignum esset;
ubi negotio imperium, cunctis, novum bellum asp
ectat, ubi virtus cunctis parat.

TERENCE—ANDREW.

Sp. Tunc, agitur convalescentia jamque; equitè accipiat
fuit, agitur etiam.
Bene dicit scire esse actum. Quid istud, Sarcia, est,
quod te nescio?
Cura hinc nescio quid recitatur? *Sp.* Nequaquam vidi
linguam.
Concordantem comparatam, quoniam quae hodie inter nos
fuit.
Ego veritatem, ille veritatem, atque ambo defuit
sarcia.
Sp. Tunc edgo. *Sp.* Quid agitur? *Sp.* Adolescenti
mentem gestare oportet.
Sp. Quid potui melius, qui hodie usque os praebeo? *Sp.*
age, ut qui loquar?
Pericula in hoc negotio, maxime interdu et
terram. *Sp.* hui!
Sp. Metuisti, si videris de tuo jure concordantem postulat,
atque adolescenti cunctis negotiorum, hominum homo
indulgent.
Ne non tibi istud feceretur? *Sp.* Ego spero perio
sua cura.
Sp. Nequaquam rem facis: ubi, necesse timere homines,
Sarcia.

TERENCE—PHILIP.

Ph. Istam patriam sine conspectu veritatis hinc abiecit?
Ph. edmodum.
Ph. Phantasia refertur solam? *Ge.* sic. *Ph.* et istam
verum?
Ge. Oppidum. *Ph.* ad te cunctis solam, Phantasia, verum
refert?
Ph. hinc hinc? *Ph.* hinc et cunctis solam: aculeum.
Ge. Obsecro te. *Ph.* et regitabit. *Ge.* in te ipse est.
Ph. ecce.
Quid si reddet? *Ge.* tu ingratum. *Ph.* sic opinor.
Ge. subvenit.
Ph. Cedo verum: jam instructa sunt mihi in corde con
silia omnia.
Ge. Quid agis? *Ph.* quid vis? nunc ut nunc Ph
antasia; atque ex cunctis hoc
Antiphrasem edipiam? atque hinc cunctis hinc derivat
seris?
Ge. O deus fortis, atque antequam verum hoc meo,
Phantasia.
Verum, ne istam fortitudo in verum cunctis desig
nat.
Ph. ah,
Non haec est: fortitudo est periculum: jam periculum est
via.

CICERO—ORAT. I. in CAESAREM.

Reverentia tuae maxime potestatem illam, quoniam
non ista est: sed te vigilare cunctis ad multumque
te ad periculum rei publicae. Dico te priore teo

veritate inter solentem—non agitur cunctis—in M.
Luceas cunctis: convenientem eodem complures eundem
amorem cunctis agitur. Nunc agitur cunctis? quid
tunc? cunctis, et agitur. Video enim hic in cunctis
quodam, qui tunc non habent. O di immortales!
cunctis agitur cunctis? quoniam rem publicam habentem?
in quo urbe cunctis? Hic, hic sunt, in nostro numero,
potestatem cunctis, in hoc ubi terra cunctis gra
vissimae cunctis, qui de nostro cunctis interit, qui de
hinc ubi atque alio de cunctis terrarum cunctis agitur.

TACITUS—AGRICOLA.

Si quis plerumque maxime bonis, et ut expeditur plerumque,
non cum corpore contingunt maxime maxime, plerumque
quiescit, atque ducit tunc ad infirmum ducit et
malis hinc maxime ad cunctis cunctis virtutem
tunc vocat, quoniam agitur agitur plerumque fuit, et
admittit ad potestatem et immortales hinc fuit, et
interit, interit, interit. In veris bonis,
et cunctis cunctis plerumque plerumque: id fuit quoniam
tunc plerumque, et plerumque, et plerumque, et plerumque
veritatem, et cunctis fuit cunctis cunctis cunctis veritatem,
fuit, et agitur cunctis agitur quoniam cunctis com
plerumque, non quoniam interit cunctis plerumque
quoniam maxime aut vero fuit, et ut plerumque bonis,
in cunctis plerumque veritatem in cunctis, et plerumque
fuit, et cunctis agitur, quoniam tunc et plerumque non per
aliam maxime et agitur, et tunc ipso maxime plerumque.

TACITUS—GERMANIA.

Virtutesque in nobilissimaeque Severum Severum
maxime. Aides agitur agitur agitur, et agitur
tunc in cunctis agitur agitur et prius maxime
cunctis cunctis cunctis agitur agitur agitur agitur
cunctis, cunctis plerumque hinc cunctis hinc hinc
hinc hinc hinc. et ut illa hinc hinc. nunc
nunc plerumque agitur agitur, et minor et potestatem
maxime pueri se fuit. et fuit plerumque est, et agitur
et agitur hinc hinc: per hinc hinc hinc.
agitur cunctis agitur agitur, tunc in hinc
agitur, hinc agitur cunctis hinc, cunctis hinc agitur
parentia. agitur agitur agitur Severum: cunctis
per hinc hinc: quoniam cunctis agitur, et se
Severum agitur agitur.

1. Write short explanatory notes on the passages which you have translated.
2. Give the principal parts of the verbs *caedo*, *coeo*, *rumpo*, *laeo*, *fungo*, *solvo*, *grando*, also the comparative and superlative degrees of the adjectives, *divus*, *exterus*, *dexter*, *noquam*.
3. Draw up a map of that part of Africa which was known to the Romans.
4. Give an account of the Constitution of Servius Tullius, with references to the authors from whom we derive our knowledge of this subject.
5. Explain the Choriambic metres used by Horace.
6. Write the following passage, with the quantity of each syllable marked:—
Eten publicum, Quiritum, vitisque omnium vestram,
bona, fortuna, ceteraque, liberisque vestris atque hoc
devotissimum civitatis imperii, fortissimumque politer
tissimumque vestris hinc hinc deorum immortalium
summo erga vos amore, laboribus, cunctis, periculis meis
et severa agitur fuit se pueri ex fuit hinc fuit cunctis
et vobis cunctis cunctis cunctis cunctis.
7. Translate into Latin prose:—
Day was now dawning; and as the army was begin
ning to get into certain order and tranquillity, the
arrows of the Perthians fell upon the rear, and the signal
for battle was given to the light armed troops. The
heavy-armed, covering one another, as before, with their
shields, stood the assault of the missiles, the enemy not
venturing to come near. The first ranks advancing
slowly in this form, the river was seen, and Antiochus,
drawing up his cavalry on the banks, in face of the enemy,
carried the week across first.

Αντικείμενα ΕΛ. Ήμετερος βουλόμαστε φέρονε κριτική και ανακρίνοντας δε

Examination
for the Degree
of A.B.
Group A
Candidates

ἡρωϊκὰ τοῦ πολέμου. ὡς ἢ καὶ ἴσους ἢ σὺν
τοῖς, ἀνίσταται ἢ λέγουσιν εἰς ἑαυτὸν ἄλλος οὐ λογι-
ζοῦν ἀνίσταται καὶ ἄλλοι συγγραφεῖς οὐ ἄλλοι
ἀνιστοῦνται. αὐτοὶ δὲ συγγραφεῖς [οὐ λογοῦν], ὅτι

քաղաքներում ու սկզբում, նորարարական, մասնավորապես ռեզիդենցիայի միջոցով, որն արդեն համարվում էր արվեստի միջավայր։ Երբեք էլ չհանդուրժեցի ինքնուրույն ռեզիդենցիան, օգտագործելով իր արվեստը՝ ինքնուրույն ռեզիդենցիայի միջոցով, որն արդեն համարվում էր արվեստի միջավայր։ Երբեք էլ չհանդուրժեցի ինքնուրույն ռեզիդենցիան, օգտագործելով իր արվեստը՝ ինքնուրույն ռեզիդենցիայի միջոցով, որն արդեն համարվում էր արվեստի միջավայր։

(c) Explain the construction identified by the in the *phrase* *ri piangere* in *il* *discorso*. (d) What is the form of *to* in the *phrase* *ri piangere* in *il* *discorso*. (e) Point out the construction of *die* *del* *discorso* in the last sentence.

6. L'Esprit du Canton

[illegible]

(a) Place the words *verruca*, *deverberate*, *argyria*, *diapores*, *apopiptosis*, *draufdyer*. (b) Explain the formation of *verruca* ending in *a*, as *deverber*. (c) Why is *apopiptosis* contrasted with a *positive* case.

1. (a) Mention the leading dialects in Greek, and name some of the writers in each.

(5) What is the earliest authenticated date in Ginnian history?

(c) Enumerate the great divisions of Greek literature, and give, approximately, the date of the rise of each.

3. (a) What were the original person-endings of the Greek text, and where were they?

(b) Give the forms of the vectors α_1, α_2 , and α_3 in terms of $\beta_1, \beta_2, \beta_3$.

3. Translate into Greek—
(a) He thought that he was a

(b) The *Loxodermos* having ordered two slabs to be made, offering

and to be made offered them up in place of
Pastorine.

(p) It is not possible that the same person should at once know and not know the same thing.

(d) There is no exhortation so beautiful that it can make, on the very day that they hear it,

(a) Since Cyrus is dead, there is no one for whom

(5) We, after our city had been laid waste by the Persians, obtained the first place among the Greeks, by flourishing and by paying attention to our affairs; but when we thought that we possessed an invincible power, we were within a hair's breadth of being reduced to utter slavery.

17th September, 1936. 10 o'clock, a.m.

CONTINENTAL LANGUAGES.—*Examiner, Professor*
De Vries.

Executive Summary

2

Translate into English:

[illegible][illegible]

Discussion

1

0.2

[illegible]

APPENDIX II.

17th September, 1856, 2 o'clock, p.m.

Examination
for the Degree
of A.B.SPECIAL GROUP B.—ENGLISH PHILOLOGY AND
CRITICISM.—*Examiner, Geo. L. Cranhall, A.B.*

Group B.

1. Give an account of one or more of the following works, noting especially the age, the subject, and the general character and more remarkable peculiarities of the language:—*Æneid*; *Brut*; *The Orosius*; *Robert of Gloucestre's Chronicle*; *Robert de Brunne's Chronicle*; *The Victim of Pains Ploughman*.

2. Enumerate the principal poems of Chaucer; state when he lived; and note the principal respects in which his English differs from that of the preceding period, and from that of the present day.

3. Enumerate, in chronological order, the more ancient English poets since the middle of the sixteenth century, mentioning the time in which each lived, and describing the general character of his poetry, with reference to one or more of his works.

4. Explain and account for the two senses of the word *Ætymology*.

5. What was the original import of the English substantive noun-termination *ster*, as in *computer*, *isolator*? And what is the explanation of the modern forms, *computer*, *anatomiser*?

6. What is the explanation of the form *skiffen*?

7. What are the changes of import through which the term *ye* and you have passed since the Anglo-Saxon stage of the language?

8. What is the expression, *One cannot know every thing*, and *No one can know every thing*?

9. What is the history of the modern English infinitive as derived by the prefix *to*?

10. What was the old distinction, in English, between the present indicative active and the past participle forms of the verb, in cases where they are now the same?

11. Explain the position of the English language in what is commonly called the Indo-European family.

12. Every candidate will write a short but careful essay on one of the following subjects:—

Chaucer's Canterbury Tales, or his House of Fame.
The poetical genius of Spenser, as exhibited in his Fairy Queen.

The principal modern imitations and paraphrases of any of the poems of Chaucer.

The genius and manner of any ancient English poet of the present century.

Dialects and its varieties.

The English Language, as compared with any other language or languages.

18th September, 1856, 2 o'clock, p.m.

Logic.—*Examiner, Professor Moffatt, A.B.*

The candidates will confine their attention to one question out of each of the following pairs of questions:

A. 1. Give a brief account of the life of Aristotle. Under what circumstances was his philosophy introduced into Rome? Through what medium was it communicated to the Latin Schoolmen? Enumerate the most eminent Schoolmen.

B. 1. Define Logic, considered as a Science, and as an Art. Explain the remark, that "Reasoning comprehends inferring and proving." Enumerate the diverse faculties, with their respective functions, defects, and logical aids.

B. 2. Define Generalization as distinguished from Abstraction. Define Class, and describe the mental process in the formation of classes. How are the Extension and Comprehension of terms related? What is a *connotative* term? The word "*species*" is used in Natural History in a sense different from its logical import.

B. 3. Show that the Distribution or non-Distribution of the Predicate is entirely independent of the quantity of the proposition: e.g., that (according to the generally re-

ceived system) the predicate of A is never, and that of O always, distributed. Account logically for the common remark, that it is difficult to prove a negative.

C. 1. Define Conversion and Opposition. To what logical purposes are they subservient? What propositions are simply converted? Convert "All equilateral triangles are equiangular." What is conversion by contraposition (or negation)? Convert in this way, "All uneducated depend on him?" and the hypothetical, "If all wages be regulated by the price of food, an English labourer will have higher wages than an American."

2. Enumerate the law of Contradiction. Why is this kind of opposition said to be the most logical? Give some instance of Contrary and Contradictory terms, and of Contrary and Contradictory propositions. In the line,

"Dum vultis stulti vultu, in contraria curatis,"

we have the practical form of a logical error with respect to opposition.

D. 1. What is the fundamental principle of reasoning, according to Whately? What, according to Mill? Does the difference seem to you essential? Define a *Sorites*. How must the Dictum be extended so as to include this form of reasoning? Why can there be only one negative premise in a *sorites*? How is the *sorites* reduced to a series of syllogisms? Determine the number of the syllogisms.

2. Show that O cannot be a premise in the first, or fourth, Figure; that the second process only negatives; and the third, only particulars. It has been remarked that a great part of the reasoning in Butler's *Analogy* may be exhibited in the third figure: without any knowledge of the subject-matter of the book, what may you infer from this as to the argumentative process?

E. 1. a. "I am not of the mind of those speculators," said Burke, "who seem to think that all states have the same period of infancy, manhood, and decrepitude, that are found in individuals. Parallels of this sort rather furnish similitudes to illustrate or to adorn, than supply analogies from whence to reason. The objects which are attempted to be forced into an analogy are not found in the same classes of existence. Individuals are physical beings—commonwealths are not physical but moral entities." State, in syllogistic form, the above instance of fallacious analogical inference (and also Burke's refutation), specifying the Figure, Mood, and Reductio.

A. "It is fit, before I leave this subject, to take notice of one manifest mistake in the rules of syllogisms, viz., that no syllogistic reasoning can be right and conclusive but what has, at least, one general proposition in it. As if we could not reason, and have knowledge, about particulars: whereas, in truth, the matter is rightly considered, the immediate object of all our reasoning and knowledge, is nothing but particulars. Every man's reasoning and knowledge is only about the ideas existing in his own mind, which are truly, every one of them, particular existences;"—(Locke). Show that Locke here confounds particular propositions with singular; and distinguish them. How are singular propositions treated in logic in reference to quantity, and why?

B. 1. State the legitimate, and the fallacious modes of inference in Hypothetical syllogisms. A single rational principle respecting Consequence exposes the invalidity of the latter modes. "Logic is worthy of being cultivated, if Aristotle be regarded as infallible: but he is not; logic, therefore, is not worthy of being cultivated," points out the fallacy. Can Hypotheticals be reduced to Categoricals? In what form would they then appear?

F. 1. Define Probability. How is Probable evidence essentially distinguished from Demonstrative? What is the origin of the term moral certainty? Define Circumstantial evidence; and point out its logical defect. Do you know any method of computing the collective value of several (probable) arguments converging to the same result?

B. 2. Define Analogy. Distinguish between the positive and negative application of this species of evidence. In what way is analogy an answer to objections? Into what errors are we liable to fall in analogical reasoning?

There is also a common fallacious mode of meeting just arguments from analogy.

Q. 1. Whence does it arise that words are a source of difficulty in our investigations? In what sciences are these difficulties obliquely experienced? How does Bacon describe this fact? What sciences exhibit the best examples of semioticisms? What are semioticisms, and why so called? How do you understand the remark of Hobbes, that "words are the counters of wise men, but the money of fools?"

II. What are the rules of Definition? What are the faults of the following definitions:—*"A parallelogram is a four-sided figure whose opposite sides are parallel and equal."* *"Life is the sum of the vital functions."* *"Words are the signs of thought."* Whence arises the difficulty of defining such objects of thought as Time, Space, Motion, &c.

III. "We are told by those who lay down rules of philosophizing, that the object of philosophy is to observe particulars, and from these to frame general laws, which may again be applied to the explanation of particulars:—But the only particulars to which we can, with perfect confidence, apply a general law, are the very particulars that have been before observed by us." (*Dr. Thomas Brown*). Do you accept this comment of Brown as a true exposition of the aim of inductive philosophy? Whence arises the characteristic distinction between the old method of philosophizing (*inductio per analogiam consequentiam*) and the Baconian Interpretation of Nature? What is the real aim of philosophy according to Bacon? What is Mill's definition of induction; and by what criterion does he distinguish it from other operations sometimes improperly called inductions?

IV. Bacon uses the term "science" in a sense different from its ordinary import. Define the term "*Science of Nature*," and point out the fallacy of Montaigne's inference, "that the moral world is far from being so well governed as the material; for the former, although it has its laws, which are invariable, does not observe those laws so constantly as the latter." Are there any exceptions to laws of nature? What is the true determination of such supposed cases?

V. Mill says that the methods of Agreement and Difference are both methods of *abstraction*; state and illustrate the operation denoted by this last term; and the principle of its application in these methods respectively. What is meant by a *crucial instance*, and what is the earliest recorded?

VI. What do you mean by the explanation of natural phenomena? Define *Causa*. How is it usually distinguished from Law? How from Condition? Define *Final Cause*. Who first used the term? How do you account for Bacon's often-quoted disparagement of the study of final causes?

VII. Dr. Brown means to comprehend moral and political truth within the scope of the inductive method? Does such treatment of moral phenomena imply that there are no *a priori*, or constitutional, principles of moral guidance? Mill thinks that, in these cases, the *deductive* method must be the principal instrument of investigation—why? But is this independent of induction? What is the nearest approach to experiment (in the philosophical sense) in politics?

VIII. Bacon enumerates three great revolutions or epochs of philosophy. How does he account for the fact that "the great mother of the sciences" was neglected during these periods? How was natural philosophy corrupted in the several schools of ancient philosophy? By what characteristic does he distinguish sciences "*founded on nature*" from those "*founded on opinion*?" What other critics of a science based on sound principles does he lament on?

physics, and give the etymology of the latter term. In what sense does Bacon employ it? Who is usually entitled "*Father of Modern Psychology*?"

IX. How do philosophers assert the claims of psychology to the title of a real or positive science? What are the two great problems of psychology, and how is their systematic order determined? On this subject Locke has been charged with a radical error of method.

X. Enumerate the principal philosophical writings of Bacon and Descartes; and approximate to their relative dates. What is the most general distinction between the methods of these philosophers?

XI. What were Descartes' Rules of Method? What was his Criterion of Truth? He is charged with a paralogism in the demonstration he offers of an external world.

XII. Give the date of Locke's Essay; and state, generally, the aim and method of the work. What is usually considered the most valuable portion of it? Who have been its most eminent critics? Cousin, in asserting what he considers the most comprehensive of Locke's errors, lays down a distinction of extensive application in reference to the twofold order of ideas or knowledge?

XIII. Locke's philosophy has been designated a system of *Empiricism*—why? How does Kant express the relation of experience to knowledge? Locke's definition of Knowledge has been the subject of much criticism: what consequences has it been supposed to involve?

XIV. Whence do we get the idea of Space, according to Locke? Cousin's criticism on Locke's analysis of Space is obviously correct. What are the remarkable conclusions of Kant respecting Space and Time? What is the doctrine of the Common Sense school on these subjects?

XV. What is *Ideality*? The system of Berkeley was based upon prevalent philosophical dogmas. What did he mean by matter, in denying its existence? His doctrine of substance is expressed in a well known formula. What was the moral aim of his Idealism? What are the false premises in his reasoning, according to his opponents?

XVI. With respect both to the nature of Cause and the origin of the notion, philosophers may be divided into two classes. Is Power merely immediate and inviolable antecedence? What was the origin of the notion of cause and effect, according to Hume? On what grounds did he deny the objective reality of the relation? How was Hume's scepticism on this subject connected with the philosophical career of Kant? Reid and Kant, who proposed to obviate the principles of Hume in a somewhat similar way, are agreed as to the criterion of an original principle of thought. The essential characters of the principles of Common Sense are reduced to four by Hamilton.

XVII. In what respects does Locke stand distinct from the French Sensational School? What did Locke mean by Reflection? What was the system of Transformed Sensations, and who was its author? In what school, and by whom, do we find the formula enounced—"penser est sentir"? How do philosophers of this school account for Memory, Judgment, Will, &c?

XVIII. Distinguish Consciousness from Reflection and Attention. Is consciousness a special faculty? What are its functions and objects?

XIX. How has Sensation been distinguished from Perception? Can they exist apart really, or is it only in the way of psychological analysis? What experimental proof have we that some of our perceptions are acquired? What are the elements in the visual judgment of distance?

XX. State, briefly, the principle of each of the following theories—Occasional Causes; Pre-established Harmony; Vision is God. To meet what difficulties were these theories devised? Name their respective authors.

XXI. On what principle does Hamilton classify the various theories of Perception? "The one legitimate

Answered II.
—
Examination
for the Degree
of A.B.
Group B.

1864 September, 1850, 2 s'clock, pm.

METAPHYSICS.—Examiner, Professor Moffat, LL.D.

The candidates will confer their attention to the question out of each of the following pairs of questions:—

A. 1. Define Psychology as distinguished from Me-

ASSOCIATION II. doctrine," he says, "may be called *Natural Doctrine or Natural Doctrine*." Explain this.

11.1. Define Conception, and distinguish it from Intuition. What philosophers, in ancient and modern times, have attempted to generalize the phenomena of Association? Mention what you consider to be the best analysis. What is Locke's theory of Association?

12. Can you exhibit any classification of the Emotions? How are these states of mind distinguished from vital affections of the soul? How from the Will? 13. Define the doctrine of Economy. What else has Locke been supposed to take in this controversy? How does Locke distinguish Will from Desire? How would you distinguish a voluntary act from a spontaneous act. Is the admission of the principle, "every man acts upon the strongest motive," subversive of Liberty? How did Kant prove and designate the principle of Liberty.

14. Butler states very fully what he considers to be the only legitimate method of inquiry into the existence and determination of any affection or principle. Against what ethical system, and by whom promulgated, does he employ this method? Turning the same method, he establishes the existence of certain superior principles in human nature; what are these? What is meant by the theory which represents morality to be "founded on will," and what is its error? The law of the land cannot be the ultimate foundation or standard of right and wrong; why?

2nd September, 1886, 10 o'clock, a.m.

JURISPRUDENCE.

Examiner, T. E. Cliffe Leslie, LL.B.

1. What is meant by the statement, that Jurisprudence is an inductive science.
2. What is the meaning of the phrase, Positive Law?
3. In what sense is it true that there is a Law of Nature which is the source and basis of Positive Law?
4. Is the right of property founded in the law of nature as explained, or is it entirely the creature of Positive Law?

5. Do you consider International Law as Positive Law or not?
6. Prove the fallacy of the doctrine of the social contract.
7. What is the objection to Blackstone's Division of legal rights into the rights of persons and the rights of things?

8. Lord Bacon pronounced that "a law may be deemed good which is certain in intention, just in principle, convenient in the execution, agreeing with the form of equity, and possessing virtue in subjects." Do his writings contain rules for securing all or any of these qualities in a body of laws?

9. "Therefore never must delinquent laws unless in those cases where the law can look back with justice."—Bacon. Show the reason for this limitation.

10. Explain the maxim: *quædam jura sunt communis omnium et inalienabilia*.

11. Explain the division of laws which Bentham denotes by the terms, *laws substantive and laws adjective*.

12. Mention some recent changes in the law which may be traced to the influence of Bentham's writings.

POSITIVE ECONOMY.

Examiner, T. E. Cliffe Leslie, LL.B.

1. What are the economic advantages of the Division of labor?

2. Show that the doctrine of over-production is inconsistent with the first axiom of Political Economy.

3. In what sense does an increasing consumption tend to rise, and in what cases does it tend to lower, the price of commodities?

4. Do you consider the costs used in a manufactory as fixed or as circulating capital?

5. What would be the immediate, and what the probable ultimate, effect, on the price of tea, of a total abolition of import duty?

6. What would be the effect on wages in Great Britain, of substituting a tax on profits for all other taxes?

7. What would be the effect on the price of corn, of substituting a tax on land-value for all other taxes?

8. What are the principal advantages of free trade?

9. Why are the products metals better fitted to serve as money than (1) shells, (2) bars of iron, (3) cattle, (4) inconvertible bank notes?

10. Point out the fallacy of the objection to the present system of currency, that it keeps the price of gold fixed, although its value is fluctuating.

11. Explain the phrases—*Par of exchange, nominal exchange, real exchange, bills of exchange*.

18th September, 1886, 2 o'clock, p.m.

NATURAL PHILOSOPHY.

Examiner, G. Jackson Stoney, A.M.

1. If an uniform 12 foot pole, which weighs 7 cwt., be supported by props placed respectively at distances of 3 and 4 feet from its ends, find the pressure on the props.

2. A handle, with an arm 8 feet long, turns on a endless screw, which works a wheel with 60 teeth, and a chain supporting a weight of 5 tons is coiled up on the shaft of this wheel; what force applied to the handle will balance this weight, supposing the shaft to be 6 inches in diameter?

3. If the friction on a road be $\frac{1}{16}$ th of the pressure, with what force must a horse drag a load of one ton, to pull it up an incline of 9 in 100?

4. If a simple pendulum, 48 inches in length, made 3,200 vibrations in an hour, show that the length of a pendulum beating seconds, would be 48 inches.

5. There that a mass weighing 100 lb., and moving with a velocity of 80 feet per second, would be capable of doing 1,000 foot-pounds of work before coming to rest, if 22 was the acceleration due to gravity.

6. Balls which weigh each 10 lbs. are fired on the ends of a rod 5 feet in length, which makes 120 rotations per minute round an axis fixed perpendicularly through its centre, calculate the position of the rod which attains from the centrifugal tendency of the balls.

7. Describe the method by which the form of the earth's orbit is determined from observation.

8. The atmosphere is a mixture of various gases not chemically united; in consequence of what property of gases do they remain mixed?

9. An ounce of wood and an ounce of lead heated together, weigh half an ounce in water; the specific gravity of the lead is 11, what is that of the wood?

10. Describe a method for determining the coefficient of expansion of a liquid, with the precautions to be attended to, so far as you know them.

11. If one coating be removed from a charged Leyden jar it will not give an electric shock; explain why.

12. If the fundamental law of magnetic induction be the inverse square, show that iron will attract a magnet by a law which varies more rapidly.

13. Explain, by what means ordinary telescopes are made to show objects erect.

14. What is the cause of the colors seen in a soap bubble?

19th September, 1886, 10 o'clock, a.m.

CHEMISTRY.—Examiner, J. Hogg, M.A.

1. Define chemical change.

2. State the law of equivalents, and the grounds on which it is established.

3. What are the data required for calculating the combining volume of a gas?

4. Give the process for extracting phosphorus from bones.

5. Give the preparation and properties of carbonic oxide.

6. Give the symbols and names of the different oxygen compounds of chlorine; state shortly the modes of preparing them, and their different properties.

7. What compound of nitrogen is prepared pure from nitre, protochloride of iron, and hydrochloric acid? Give the reactions in symbols.

8. What is the difference between a simple and a compound crystal?

9. Give the relations of the axes of the square prismatic, and of the right prismatic systems of crystals.

10. Give, in symbols, the old and new views of the constitution of osmium salts; state some of the grounds on which these views are based.

11. Explain the method of preparing baryta water from the sulphate; by what reagents is this base detected?

12. Salts of CuO , MnO , MgO , KO , NH_4O , are in the same solution; how may they be separated from each other, and by what characteristic reagent in each substance detected?

13. Explain the action of water on the chlorides of bismuth and of antimony, and give the means of distinguishing these two metals after such action.

14. Explain, shortly, the metallurgy of copper.

15. State, shortly, some of the methods of estimating N in organic substances.

16. Give, in symbols, the process for preparing light anhydrous hydrogen; state some of its properties.

17. Write the formulae, and give the names (as hydrated oxides) of the first six alcohols of the type $\text{C}_n\text{H}_{2n+2}\text{O}$; state the mode of preparing, and the properties of the aldehyde of the second of the series.

18. What is the action of heat on the baryta salts of the acids of the different alcohols belonging to the type mentioned in question 17?

26th September, 1856, 10 o'clock, a.m.

BOTANY—*Examiner, Dr. Melville.*

1. Enumerate the various forms of vessels in plants; also describe their structure and mode of origin.

2. Name and define the inflorescences exhibited by the plants on the table.

3. Name and define the fruits on the table, and give a tabular view of a scientific arrangement of fruits.

4. State the characters of the natural orders—*Ranaceae*, *Labiata*, *Labiales*.

5. Define the term stoma employed in phytogeography; also enumerate the principal botanized stations, and give examples of plants inhabiting these stations.

ZOOLOGY.

APPENDIX II.

Examination for the Degree of A.B.

Group C, and Group D.

1. Give an idea of the structure of a gland, and of the phenomena of secretion; state also the functions of the liver and kidney.

2. Describe the plan of the nervous system in the various types of the *Invertebrata*.

3. Give a sketch of the plan of development in the vertebrate embryo.

4. Enumerate the subdivisions of the Crustacea, and mention the principal characteristics of each.

5. State the chief peculiarities in the Fauna of Madagascar, the Sandwich Islands, New Zealand, and the Galapagos Islands.

26th September, 1856, 2 o'clock, p.m.

PHYSICAL GEOGRAPHY.

Examiner, J. Beete Jukes, M.A., F.R.S.

1. What is the difference between the polar and equatorial diameters of the earth, and what conclusion might be drawn from its external form as to its internal state and primitive condition?

2. Give the meaning of the terms, "basin of drainage," "axis of elevation," "steppe," "pavé," "delta," "watered."

3. Describe the principal motions of the ocean and atmosphere (currents and winds), and the general cause of these motions.

4. What large countries are remarkable for their excessive dryness or their excessive humidity; and what are the causes in each case?

5. What are "Isothermal Lines," and what is the general direction of the winter isothermals (isothermals) of Western Europe?

6. What is an earthquake? Describe the various waves of motion and of sound produced by an earthquake originating under the sea, and state any instances you may recollect of any permanent change of level having accompanied earthquakes.

7. Give a brief description of the form, extent, and thickness of coral reefs, and their geographical distribution, and Darwin's theory as to the formation of "atolls" and "barriers."

8. Mention any facts that occur to you which show a connexion between earthquakes and volcanoes.

9. Give a sketch of the physical geography of the British Islands, mentioning—

(a) The principal groups or ranges of mountains or hills.

(b) The principal rivers that spring from them, with their general course and the place of their embouchure.

(c) The chief characteristics of our climate and their causes.

EXAMINATION FOR HONORS A.B.

Examination for Honors A.B.

26th September, 1856, 10 o'clock, a.m.

LATIN VERSE—*Examiner, Russell Lewis, M.A.*

Translate:—

(A) HORACE.—Odes, Book II.

Motum ex Metello castris obvium.

Bellicae canas et vicia et modas.

Laetantur fortasse gravesque

Principum sententia et acri.

Necdem expiatis uncta crucifera,

Perfocissae placant opes astra,

Tristes, et locusta per ignes

Supplicis cineris solvo.

Pariter severae Mian tragediae

Deus theatrici: mox, ubi publicae

Res ordinant, grande munus

Compos repens carthago.

Insigne mactis praedictum reis

Et consensu, Follis, Curiae,

Cui laetare autem hinc

Dalmanio peperit triumpho.

Iam nunc ubi ad mare cernimus

Perstrigis suras, iam litui strepunt,

Iam fulgur armatus figitur

Terrae equos equitumque volat.

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սխառու անոց եւս ու ծաղկաւորուած
ծաղիկ՝ աշխուհուս անդամաւորաց,
եւ արժ՞ Ե արեւանա՝ արեւմտեաց ինչ
ու անբարձր ձեւ, եւ յնչ փոխի՞ զի արքան,
նոց զոգնի ձեռք ծաղկաւոր արքա՝
Յիսակ, եւ ի նման յնաք արքայ Դաւիթ
ու արքայ ինչից անարժիք անոց՝ Ե Դաւիթ
ու արքայ ծաղկաւոր անարեւմտեաց՝
Իմ Ե Դաւիթ անարեւմտեան անոցն,
եւ ու՝ Ե Դաւիթ անարեւմտեան անոցն,
անարժ՞ անոցն իմ, արքայ անարժիք
Դաւիթ անարեւմտեան անոցն՝ անարժ՞
անոցն Դաւիթ անարեւմտեան անոցն՝

A. (a) What are the various readings for *deftest* and *deserve*? Explain the metaphor involved in the latter word; also that involved in *deservable*. (b) Give examples of compounds affixed to *deservingness*. (c) How does Person seek to justify the unusual meaning he gives to the phrase *deserve sleep*? How does he suggest the true interpretation? (d) Illustrate the use of the positive in the phrase *deserve commendation*.

B. (a) Explain and illustrate the following phrases:—
 ἐκ τῶν ἀπὸλλυμαι, ἡφαίστου καὶ, τεταύρωται ἕρπ.
 (b) Explain and illustrate the following constructions:—
 καὶ τὸν ἀντιπάλιν αὐτῶν, πλεονεξία θυγατρὸς τοῦ πατρὸς.

C. Give Person's conclusions of the following facts, stating the reasons upon which they are based:—

[illegible]

V.—1. Translated EQUATIONS—ALGEBRA, 963-1024

[illegible]

Comment upon the words to which asterisks are assigned.

3. (a) 詩經 22 句 yf-wat ng 94w. Illustrate, by quotations from the ancient classics, the sentiment here expressed. Examination for Honours A.B.

(b) *ὡς γὰρ μεταμορφώσθη θεοῦ ἵσχυι*. Cite a parallel to this expression from the Promethean Vinctus of Aeschylus.

VL—Translate into Greek Texts—

The noble hero,
That in his fiery youth from his wide nostrils
Neighed courage to his rider, and brain through
Grooves of opposed pikes, boasting his land
Safe to triumphant victory; old and wounded
Was set at liberty and freed from service.
The Athenian notes that from the quarry drew
Mistle hewed for the temples of the gods,
The great work failed were dissolved and fed
At the public cost; nay, faithful dogs have found
Their sepulchre; but none to soon more cruel
Arrests no end to the sufferings of his slave.

25th September, 1995, 10 o'clock, a.m.

ENGLISH LANGUAGE AND LITERATURE

Examiner, Geo. L. Craig, A.M.

1. The two scientific views of the history of the English language are to regard it in the three successive states, of (1) What is commonly called Anglo-Saxon; (2) The degraded or broken-down condition of that original form, or what has been designated Semi-Saxon; (3) The re-organized language, or Mixed English, now in use. State distinctly the main cause which converted each of these states or forms into the succeeding one, with the exact manner of its operation; discriminate the three forms by their leading characteristics; and specify the period over which each may be regarded as extending. Take particular care not to confound the two processes of disintegration and foreign intermixture.

2. State in what respects our English of the present day differs from that of Pope, from that of Shakespeare, from that of Spenser, and from that of Chaucer.

3. Enumerate and characterize the principal English dramatists of the age of Elizabeth and James.

4. Give a short account of the principal English historical writers, and their works, since the middle of the sixteenth century.

5. Give an account of the following words:—*shaw, then, there, this, it, how, etc.*

6. How do you connect the two words, goose and gender? And what account do you give of the words duck and drake?

7. Give Horne Tooke's account of the following words, and also the account of each that is generally accepted by the philology of the present day:—*and*, *head*, *arisen*, *if*.

8. Explain the terms *essence*, *methinks*, and *me* first!

9. Explain the forms *clue*, *unswaver*, *effluence*, *rights* (in by rights), *once*, *twice*, *thrice*, *needs* (as in *I needs must go*), *eridone*, *schilene*, *darthine*.

10. Distribute the forms *am, are, art, be, been, being, is, was, were, were, were* (which make up our modern infinitive verb), under the various defective verbs of which they are parts.

11. Give the history and the probable resolution of such forms of expression as *a house to let*, *a man to love*, *be it to blame*.

12. How do you account for the identity, commonly, in modern English of the genitive singular and the nominative plural?

APPENDIX II.
Examination
for Honors
A.B.

20th September, 1854, 2 o'clock, p.m.

ENGLISH LANGUAGE AND LITERATURE.

Examiner, Geo. L. Croft, A.M.

1. Distinguish the genius and style or manner of as many of the following poets as you may be sufficiently acquainted with:—Dryden, Pope, Thomson, Young, Collins, Goldsmith, Gray, Cowper.

2. Explain the following passages from Milton:—

"Bring the rather prisoners that forsaken lie."—*Eve*.

"And every shepherd tells his tale
Under the hawthorn in the dale."—*Eve*.

"Sometimes with solemn delight
The upland hazels will invite."—*Eve*.

"Where perhaps some beasty lin,
The cynosure of neighbouring eyes."—*Eve*.

"Then to the well-trod stage anon,
If Jonson's learned sock be on."—*Eve*.

"Call up him that left half told
The story of Cambusca bold."—*Per*.

"But let my due first never fail
To walk the staidest chambers (?) pale."—*Per*.

"Under a star-painting (?) pyre."—*Sp*.

"The great Ethiopian conqueror bid spare
The house of Pindarus, when temple and tower
Went to the ground; and the renowned air
Of Ethiopia's poet had the power
To save the Aethiopian walls from ruin here."—*Sen*.

"Into what pit thou seest
From what height fallen, so much the stronger proved
By with his thunder."—*Per*.

"What though the field be lost?
All is not lost; the unconquerable will
And study of revenge, immortal hate,
And courage never to submit or yield;
And what is this not to be overcome?"—*Per*.

"He our conqueror, when I now
Of force believe slightly, dare no less
Than such could have oppressed such force as ours."—*Per*.

"A multitude (?) like which the popular north
Poured never from her frozen lake."—*Per*.

"Or where the gorgeous East with richest hand
Showers on her kings barbaric pearl and gold."—*Per*.

"Hail, holy Light, offspring of Heaven first-born,
Or of the Eternal co-eternal beam (?)
May I express thee unblended? since God is Light. . .
Or haven't thee rather (?) pure ethereal stream,
Whose fountain who shall tell?"—*Per*.

3. Point out and account for the irregularities, either of form or of accentuation, in the following words:—*Apoecrypha, Apostrophe, Benefactor, Bridegroom, Casuistry, Crude, Debris (m), Foreign, Heavens, Hermit, Island, Livelihood, Minister, Penitence, Rampant, Shewbread, Styling, Sweeney, Sweetheart*.

4. Explain the following expressions:—"You ought not walk" (*Shakespeare*); "His all-obeying beauty" (*Id.*); "As for contragredients and great demerits, they do not commonly dispropose and destroy" (*Bacon, 3rd Essay*); "And a certain woman cast a piece of millstone upon Abraham's head, and all to break his skull" (*Judges, ix. 16*); "Sir Thomas Fairfax . . . left them time enough to refresh and recover themselves; whilst he himself intended the recovery of Brighthelm" (*Clarendon*); "Upon the End of Godolphin's death, the Duke of Marlborough resolved to go and live beyond sea. . . This was verily considered" (*Barnes*).

27th September, 1854, 10 o'clock, a.m.

CONTINENTAL LANGUAGES.

Examiner, Professor De Verriour.

FRENCH.

Translate into English:—

"Quand deux âmes pures se touchent réciproquement leur intelligence s'élève, leur volonté labour les élève. . . Ils sont l'un à l'autre comme un effluve à l'autre. Leur propre bonheur les rendent plus heureux, leur propre orgueil les console, leur propre talent les éprouve, et ils ne peuvent se voir, se dévotiser sans se dévotiser sans leur sensibilité; car chaque rapport ordinaire, chaque effluve conciliant, chaque idée pure, trouvent en eux une voix toujours infatigable qui les démontre à leur oreille sans se fatiguer. Quelque secret que soit leur orgueil, si à toujours deux inévitables dévotion, Dieu qu'ils se voient pas, et la conscience qu'ils sentent."—Victor Hugo.

1. What are the original sources of the French language?

2. When is the negative *ne* applied in French without there being a corresponding negative expressed in English?

3. Explain the difference between the imperfect and the preterite of the indicative mood, and illustrate it by examples.

4. What class of verbs is regularly conjugated in English with the auxiliary *to be*, while in French with *être*?

5. State and exemplify the rules of the past participle.

6. Explain the words *Romantic* and *Classical*.

7. Give the meanings of the following words, and illustrate their signification by examples:—*Franchise, Frontière, Ensemble, Évidemment, Volonté, Explication, Éternité, Opère, Relief, Écarter, Recueil, Recensement*.

8. Mention and characterize the principal writers of the age of Louis XIV.

GERMAN.

Translate into English:—

Der ich in jeder Zeit und Ort
Die ich in jeder Zeit und Ort
Der ich in jeder Zeit und Ort
Der ich in jeder Zeit und Ort

Der ich in jeder Zeit und Ort
Der ich in jeder Zeit und Ort
Der ich in jeder Zeit und Ort
Der ich in jeder Zeit und Ort

Der ich in jeder Zeit und Ort
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Der ich in jeder Zeit und Ort
Der ich in jeder Zeit und Ort
Der ich in jeder Zeit und Ort

HUNTER.

1. Decline *Er, Sie, Es*.

2. Mention some of the conjunctions which remove the verb at the end of the sentence.

3. Mention the prepositions which govern both the dative and the accusative cases.

4. What is the difference between *Kennen* and *Wissen*?

5. Give the first person singular of the present, the imperfect, and perfect of the following verbs:—*Lesen*,

Einsetzen, Vergessen, Verachlässigen, Sich Herumtreiben, Elimen.

5. What is the sign of the past participle? When is it omitted?

7. What is the difference between *Sein* and *Werden*? Give examples of the present and past tenses.

8. What are the principal dialects of the German language, and from which of them is the English derived?

ITALIAN.

Translate into English:—

LA CASA DEL SORDO.

Grace in Arabia non voluta ancora,
Lontana da città e da villaggi,
Ch' all' ombra di due monti è tutta piena
D' antighi alberi e di robusti faggi.
Il sole indarno il chiaro di vi manda,
Chò non vi può mai penetrar co i raggi,
Sì gli è la via da tutti mali tronca;
E quivi entra sordato non spemato.
Sotto la tegna s'entra non capace
E spaziosa grotta extra nel caso,
D' ai la fronte? ed ora segnano
Tutta aggirando ve con storto passo.
In questo albergo il grovè Sordo gioiò;
L' Odo da un canto corripulo e grasso,
Da l' altre la Pigiola in terra siede,
Che non può andare, e mal reggend in piede.

ARABIC.

1. Decline the present of the indicative of the verb *andara*.

2. Decline the imperfect and perfect of the indicative mood of the verbs *share* and *fare*.

3. When do the possessive pronouns refuse the definite article in Italian?

4. Mention the peculiarity of the adverbs of quantity, and illustrate it by examples.

5. Say in what cases the verbs *andara* and *share* are often employed with a gerund.

6. Say which auxiliary verb is required in the formation of the compound tenses of reflexed verbs.

7. Mention the conjunctions which govern the subjunctive mood.

8. When did Aristotle live, and what is the character of his poetry?

Translate into French, or German, or Italian:—

But what a detestable maxim that the security of the prince depends only upon the oppression of the people. Should not care be taken to improve their knowledge or their morals? Instead of being taught to love him whom they are born to obey, should they be driven by terror to despair, and reduced to the dreadful necessity of either throwing off the yoke of their tyrant, or perishing under its weight? Can this be the way to reign with tranquillity? Can this be the path that leads to glory? The sovereign who is the most absolute is always the least powerful; he seizes upon all, and his grasp is ruin. He is, indeed, the sole proprietor of whatever his state contains, but for that reason his state contains nothing of value: the fields are unimproved, and almost a desert; the towns lose some of their few inhabitants every day, and waste every day declines.—PASCAL.

20th September, 1856, 10 o'clock, a.m.

MATHEMATICS.—*Examiner, George Boole, Esq.*

1. The Gossens weighs, called the *peso sottile* and *peso grosso*, weigh respectively 5988 and 7087 English lbs. avoirdupois. Express by low numbers their approximate numerical ratio.

2. Given $x^2 - x - 56 = (x - 5)(x^2 - x - 56)$; required all the values of x .

3. Solve the simultaneous equations

$$\frac{y}{\sqrt{y^2-1}} = \frac{x-1}{x+1} \left(1 + \frac{2\sqrt{x}}{\sqrt{y^2-1}} \right)$$

$$y^2 - x = 2 + \frac{1}{x}$$

4. Two numbers are in the ratio of m to n , and the sum of their square roots is to the sum of their cube roots in the ratio of n to m ; find the numbers.

5. Reduce to its simplest form in terms of $\tan \theta$ the expression $\frac{2 \cos 2\theta - 1}{2 \cos 2\theta + 1}$. tan. 3\theta.

6. Give a test for determining whether a given function of $x_1, x_2, \dots, x_n$ is homogeneous, and of the m^{th} degree with respect to these quantities or not. Hence deduce the general form of such a function, and show that if the function be represented by u , then

$$x_1 \frac{du}{dx_1} + x_2 \frac{du}{dx_2} + \dots + x_n \frac{du}{dx_n} = mu.$$

7. Give the mathematical definition of the measure of probability, and explain the principle by which the probabilities of opposite and those of independent events are calculated. What is the probability that in six throws of a die the six faces will appear in a determinate order, and what is the probability that they will appear in any order?

8. Availing yourself of the known properties of the roots of equations, form without elimination a cubic equation whose roots shall furnish the values of x, y, z , belonging to the following system of simultaneous equations:—

$$\begin{aligned} x+y+z &= a \\ x^2+y^2+z^2 &= b \\ x^3+y^3+z^3 &= c \end{aligned}$$

9. Find the equation of the tangent to the curve whose equation is $x^3 + y^3 = ax^2$, and show that the length of that portion of the tangent which is intercepted between the axes of x and y is invariable.

10. Define a multiple point, and distinguish between a multiple point and a cusp. Does the equation $\frac{dy}{dx} = 0$ always indicate a multiple point?

11. Ascertain the nature of the curve whose equation is $y = x^3 - x^2$, at the point for which $x=1$, and that of the curve whose equation is $\frac{y^2}{x} = (x-2)^2$ at the point $x=2$. Show at the same time that the usual direction, to clear the equation of radical forms, is superfluous, if due attention be paid to signs.

12. Define an umbilicus, and investigate the analytical conditions for its existence on a given surface. Apply the theory to determine the position of the umbilicus on the surface whose equation is $x = x^2 + xy + y^2$, and the radius of the osculating sphere at that point.

20th September, 1856, 2 o'clock, p.m.

MATHEMATICS.—*Examiner, George Boole, Esq.*

1. The integration of the binomial differential $x^m(a+bx^n)^p dx$ is, in certain cases, reducible by a transformation to that of a series of monomials. What are those cases, and how is the transformation effected? Integrate thus the differential $x^2(1-x^2)^{1/2} dx$, and assign the value of the integral between the limits 0 and 1.

2. Integrate the differential $\frac{x^2 dx}{\sqrt{2ax - x^2}}$. Is any principle of functional homogeneity observable between the differential and the corresponding integral?

3. Find the area of the curve whose equation is $xy = (1+y^2)^{1/2}$, it being given that the area vanishes when $x=1$.

4. Ascertain whether the function—

$$\frac{dx}{\sqrt{x^2+y^2+2x-y}} \cdot \frac{dy}{1-y} \left(\frac{1-x}{\sqrt{x^2+y^2+2x-y}} \right)$$

is completely integrable. 5. If $\alpha + \beta\sqrt{-1}$ is a root of the equation $x^2 + px^2 + qx + r = 0$ show directly by the theory of equations, that α will itself be a root of the equation;

$$(2\alpha + p)^2 - p(2\alpha + p)^2 + q(2\alpha + p) + r = 0.$$

6. Explain the genesis of differential equations from their primitives. Find both the differential equation

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Appendix II. of the first order of the primitive $y=ae^x$, and show in what respect they differ.

7. Define, according to the Newtonian doctrine of fluxions, the chord of curvature in a plane curve; show that in the ellipse the chord of curvature through the centre is a third proportional to the conjugate diameter of the ellipse, and the diameter conjugate thereto.

8. In what way is the consideration of the chord of curvature useful in the doctrine of central forces? Apply it to determine the law of centripetal force, tending to the centre of an elliptic orbit.

9. Apply it to determine the law of centripetal force, tending to the focus of an ellipse.

10. The angular velocities of a body revolving in an ellipse round the foci, are at the further and nearer apex m' and m'' respectively in a unit of time; show that the eccentricity e of the ellipse will be equal to $\frac{\sqrt{m-m'}}{\sqrt{m+m'}}$, and the periodic time to $\frac{2\pi\sqrt{1+e}}{m(1-e)^{\frac{3}{2}}}$. Why is not the major axis determinable from these data?

11. Integrate the differential equation of the third order $\frac{d^3y}{dx^3} + a^2y = 0$.

Also the differential equation of the second order $\frac{d^2y}{dx^2} - a^2y = e^{ax}$, considering particularly the case in which $a=0$.

12. Find the equation of a curve in which the ratio of the normal to the subnormal is equal to the square root of the radius of curvature.

24th September, 1856, 10 o'clock, a.m.

MIXED MATHEMATICS.

Examiner, G. Johnstone Stoney, A.M.

1. Where, along the rod of a simple pendulum, vibrating seconds, should another particle equal in weight to the bob, be attached, so as to double the time of vibration?

2. Given the dimensions of the various parts of the governor of a steam-engine, find at what speed the balls will begin to diverge.

3. An uniform bar, 3 feet in length, and weighing 10 lbs., is fastened perpendicularly into a shaft; calculate the stress upon the shaft when making 100 rotations per minute.

4. If a bullet be projected with a given velocity from the top of a tower, show that the accelerated power with which it reaches the ground would be independent of the direction in which it had been projected, if the resistance of the air did not influence the result.

5. Give an outline of the reason why a top can be made to stand by spinning it.

6. State and prove the principle of virtual velocities.

7. If a centre of attraction is towards the square of the distance move with an uniformly accelerated motion in a right line, investigate the equations of motion of a free particle submitted to its attraction.

8. Prove the equations—

$$\frac{d^2r}{dt^2} = -\frac{g}{r^2}$$

$$\text{and } R \cos \theta \frac{d^2\theta}{dt^2} = -\frac{g}{r^2} \sin \theta$$

for central forces.

9. When the motion of a particle is restricted to a fixed curve or surface, show that its velocity is not affected by the pressure to which it is subjected by this restriction.

10. In what way is the unit determined to which masses are to be referred?

11. Prove that the equation—

$$m(v_1 - v_2) + m'(v'_1 - v'_2) = 0$$

is true of the normal impact of spheres, m and m' being their masses, v_1 and v'_1 their velocities before collision, and v_2 and v'_2 their velocities after.

12. A closed uniform chain is hung without friction over a pulley, with its edges horizontal, show that the chain is in equilibrium.

24th September, 1856, 2 o'clock, p.m.

MIXED MATHEMATICS.

Examiner, G. Johnstone Stoney, A.M.

1. The apparent altitude of a star is, except at the zenith, greater than the true, why? Investigate an approximation to the law of refraction.

2. Calculate the ratio of the masses of the earth and sun, taking the mean distance of the sun to be 400 times that of the moon, and the sidereal year to be equal to thirteen sidereal months, and retaining the consideration of all forces, except the direct attraction of the sun on the earth, and of the earth on the moon.

3. Determine and define the elements of a planet's orbit.

4. Investigate the form of the apparent orbit described by a star in consequence of precession.

5. Point out the nature of the aberration which is called the equation of time.

6. If a lens be placed at the principal focus of a concave mirror, determine the power, in order that an object placed at a given distance outside it may coincide with its own image.

7. State, generally, the principles upon which a flat field is measured by compound theodolites.

8. If use of two lenses be correct and the other incorrect, and if the materials of which they are made have different dispersive powers, show that they may always be so separated that they will form an achromatic arrangement for a given distance of the object point.

9. Find the lowest magnifying power which will admit of the entire pencil of light being received by an eye, the pupil of which is 0.2 of an inch in diameter, from a telescope six feet in aperture, and fifty-four feet in focal length.

10. Show that if, the angular radius of the red circle in the rainbow, will be given by the equation—

$$R = 4V - 20$$

$$\text{Cos } R = \sqrt{\frac{\mu^2 - 1}{\mu}}$$

$$\text{Sin } R = \mu \text{ Sin } V$$

μ being the index of refraction of red rays by water.

11. Investigate the law of density throughout the stratosphere on the hypothesis of an infinite temperature.

12. Show, from the principle of work, that the velocity of water issuing from an indefinitely small orifice in a vessel would be $\sqrt{2gh}$ if there were no friction, g being the acceleration due to gravity, and h the head of water over the orifice.

24th September, 1856, 10 o'clock, a.m.

PAPER.—Examiner, G. Johnstone Stoney, A.M.

1. Describe the Huggeson apparatus, and explain its advantages.

2. Explain the advantage found to result from rendering schematic the microscope generally made use of in examining transparent objects with a telescope.

3. Describe some kind of photometer, and point out the chief sources of imperfection in photometrical determinations.

4. Describe some method by which the wave-length, corresponding to a given ray, may be determined.

5. Describe Fresnel's rhomb, and account for its effects.

6. Give an outline of the cause of optical refraction in bi-crystalline, and describe the arrangements by which it was observed by Dr. Lähm.

7. Give the necessary, according to the relations and wave theories, of the colours of Newton's rings, and of the black spot seen by reflected light.

8. Explain why, in making use of a photo-convergent lens to magnify small objects, the convex side should be turned towards the eye.

9. State the important relations which exist between the specific heat and the chemical constitution of a body.

10. What is the reason that particles of snow in the shade will gradually disappear during a hard frost?

11. Describe Melloni's apparatus for the investigation of the phenomena of radiant heat.

12. Describe the contrivance by which Faraday observed the tensions of vapours at very high temperatures.

13. Describe the most efficient contrivance you know of for generating intense cold.

14. Point out the cause of the accumulation of heat within a green-house.

24th September, 1830, 2 o'clock, p.m.

PAPER.—*Examiner, G. Johnstone Stoney, A.M.*

1. Describe the experiments by which Coulomb investigated the law of magnetic repulsion, and mention the principal results at which he arrived.

2. Describe some experiments which show that gases are influenced by magnets.

3. Explain the great deterioration in the strength of a compound magnet which is sometimes found to result from adding a new element to it.

4. Describe some experiment which shows that induction accompanies the attraction of a conductor by an electrified body.

5. Describe and explain the phenomenon of the latent heat.

6. What explanation has been given of the phenomenon of the residual charge.

7. Describe the effects of a charge of static electricity transmitted through a cord.

8. What is meant by the specific conducting power of a metal for a current of electricity, and in what way is its numerical value to be found for a given metal?

9. If you have two voltaic cells, such that the electric tension of the first is double that of the second, and its internal resistance four times that of the second; investigate, from Ohm's law, within what range of internal resistance the first will give the stronger current.

10. If a single cell, and a battery of such cells, act respectively through two impedances, such that the currents are equal, show that a given addition to the impedance resistance will cause less decrease of the current from the battery than of that from the single cell.

11. What evidence have we that the decomposition due to gravity is the same for all ponderable substances?

12. Give some explanation which has been proposed for the phenomenon of *endosmosis*.

13. What are the chief difficulties experienced in determining the specific gravities of gases?

25th September, 1830.

CHEMICAL PHILOSOPHY AND CHEMISTRY.

Examiner, J. Blyth, M.D.

1. State some of the extraneous causes which may modify the force of affinity.

2. Explain the doctrine of isomorphism; give examples, in symbols, of isomorphous groups.

3. What is the nature of a double salt? What provision exists in the magnesian family for their formation?

4. It has been suggested that the double salt $\text{KCl}, \text{Pt Cl}_4$ might be regarded as a simple salt in which KCl is the base, and Pt Cl_4 the latent acid? What are the objections to this view?

5. How is a double salt distinguished from the salt of a bibasic acid?

6. The neutrality of the different classes of salts is judged of by the proportion existing between the number of equivalents of oxygen in the base and the number of equivalents of acid which enter into combination; how is this explained on the binary theory of salts?

7. How much sulphuric acid is required for the decomposition of 79 parts of nitrate of potash, the residue being bisulphate of potash?

$\text{K}=39; \text{N}=14; \text{S}=16.$

8. In what way does the density of a vapour found by experiment, serve to control the analysis of an organic substance? Exemplify this in the case of $\text{Furfural} (\text{C}_4\text{H}_4\text{O}_3)$.

Examination for Honors A.B.

$\text{Sp. gr. of Furfural, found}=1.3750.$

" Carbon vapour $=0.8350.$

" Hydrogen " $=0.0691.$

" Oxygen " $=1.1000.$

9. Give the mode of preparation, and the properties of the metal aluminium.

10. What are the different products formed by mixing together nitric acid, zinc, and dilute sulphuric acid?

11. Explain, shortly, the metallurgy of gold, as it occurs in alluvial beds, and in quartz rocks.

12. Explain the processes for extracting platinum and palladium from their ores, and for forming them into masses.

13. How is the atomic weight of an alkalioid obtained by means of bicarbonate of platinum? Calculate the atomic weight of aniline from the following data:—

20 grains of the double salt give 0.51 grs.

metallic platinum.

$\text{Cl}=35.5$

$\text{Pt}=99$

14. Give the preparation and properties of oxamide; state the general characteristics of the class of compounds of which oxamide is the type.

15. When the ammonia salts of acetic acid and its homologues are heated with anhydrous phosphoric acid, what class of compounds is formed? Give their general properties.

25th September, 1830.

CRYSTALLOGRAPHY.—*Examiner, J. Blyth, M.D.*

1. Derive the triskaidrohedron from the regular octahedron; give the crystallographic signs expressing the proportion of the parameters of its faces.

2. Give some of the combinations which the crystals of alum present; write the crystallographic signs of these forms in the order of their influence on the combination, stating which is the predominant form.

3. What are the relations of the axes of the pyramidal system? Mention some of the most important forms of this system.

4. Of what brachyohedral crystals are the tetrahedron and rhombohedron, hemihedral forms? Give the notation of their faces.

5. Give the names of the forms of the hexagonal system, the notation of whose faces is—

$a : a : a :: c : 2a : a :: 2a : c$

6. The square prismatic system contains a direct and an inverse prism; how do these forms differ in the position of the equal axes? Give the notation of their faces.

7. In the rhombohedral system, two six-sided prisms may occur, how are these distinguished by the position of the axes? Give the notation of their faces.

8. What are the relations of the axes of the oblique system? Give examples of salts belonging to this system.

VOLTAIC ELECTRICITY.

1. Point out in what way the chemical view of the electrical disturbance in the voltaic battery is supported by the phenomena observed on plunging a polished plate of iron and one of copper, connected with a galvanometer, into—first, a solution of an alkaline sulphide; secondly, into dilute sulphuric acid.

2. How has Faraday shown that Volta's theory of the origin of the voltaic current is deficient in accuracy?

3. Mention the direction of the voltaic current, and the relative order in which the energy is displayed in the following arrangements, in which dilute sulphuric acid is the exciting liquid—first, two plates of zinc; second, zinc and tin; third, zinc and copper; fourth, zinc and an amalgam of potassium; fifth, zinc and platinum; sixth, platinum and an amalgam of potassium.

Appendix II.
—
Examination for Honors
A.B.

4. What is the essential difference between a simple and a compound circuit?
5. What objection is there to forming compound voltaic batteries by connecting together large and small plates?
6. What is meant by "local action" in a voltaic battery? How is it obviated?
7. Explain the principles on which Daniell's and Grove's batteries are constructed.
8. Why is the amount of force which circulates in any given voltaic circuit not dependent solely on the energy of the chemical action which is started between the generating metal and the conducting liquid?

26th September, 1855, 10 o'clock, a.m.

BOTANY.—*Examiner, Dr. Melville.*

1. State the arguments in favour of the view that the thickening layers are deposited on the inner surface of the primary cell-wall.
2. State the principal laws of Phytotaxis.
3. Describe in technical terms the plants on the table.
4. Determine the names of the plants marked—A, B, by the aid of "Washington's Manual."
5. Enumerate the principal physiognomic forms of vegetation, and mention the regions which they respectively characterize.

ZOOLOGY.

1. Describe the microscopic structure of the shells of *Mollusca*.
2. State the homologues of the bryoid apparatus of the skeleton.
3. Describe the structure of the optic apparatus in the *Arthropoda*.
4. Refer the specimens on the table to their respective orders, and state your reasons.
5. State the principal facts in the economy and distribution of the coral-building polypus.

26th September, 1855, 2 o'clock, p.m.

GEOLOGY AND PHYSICAL GEOGRAPHY.

Examiner, J. Beete Jukes, M.A., F.R.S.

- What is the difference between a "mineral" and a "rock?"
2. Describe the structures known as "lamination," "stratification," "cleavage," "mineral vein," "fault," "unconformability."
 3. Mention some of the more ordinary kinds of igneous rocks, and their composition.
 4. What do you mean by Paleontology? What are its relations to Geology? And what its practical use in geological research?
 5. From what formations are the three following groups of fossils to be procured:—
 - (a) *Gastropoda alveolata*.
Rhynchonella octoplicata.
Ammonoites varians.
Belonitella macrocosta.
Beudanticeras.
Turritella costata.
 - (b) *Extinctness (pesciculus) Belgicus*.
Rhynchonella cornu.
Spirifer Wilsonii.
Gryphus incurvus.
Ammonoites communis.
Dufrenoyia polita.
 - (c) *Actinocrinus polydactylus*.
Griffithsia glaucocephala.
Produsius Martini.
Spirifer acutus.
Terebratulites beudanticus.
Goniatites craticulatus.
Pentamerus rufus.

6. Arrange the fossils above mentioned, zoologically, under their respective divisions of the animal kingdom.
7. Write out, in alphabetical order, the principal geological formations of the British Islands.
8. In what way do you determine the relative geological dates of ranges of mountains? Illustrate your answer by examples, giving your authorities.
9. Give a brief sketch of glaciers, their origin and movements, describing their lateral, medial, and terminal moraines, and mention the principal points in the geological action of glaciers and icebergs.
10. Describe, briefly, the general outline of the old and new continents, and of Australia, and show in what way that outline is related to their principal mountain chains.

27th September, 1855, 10 o'clock, a.m.

LOGIC.—*Examiner, Professor Huxley, LL.D.*

1. It has been said that the science of logic was originally conceived by two nations only. In the opinion, however, of Gibbon, and of Niebuhr, one of those nations may have communicated it to the other. Mention the circumstances and the period of this national intercourse?
2. Hamilton has defined logic as "the Science of the Formal Laws of Thought;" explain the words formal and thought in this definition. What were the substantiated forms of the scholasticism, and by whom were they devised? What did Bacon mean by forms? What is meant by saying that logic is concerned only with second intentions?
3. Give a brief account of what is known of the philosophical character and career of Abelard. In what famous metaphysical controversy was he engaged; what views did he maintain, and when did he oppose? Enumerate the most eminent scholastics of his century?
4. Was the controversy between Nominalism and Realism a merely verbal and frivolous one? With what modern philosophical disquisitions is it connected? Explain precisely what was meant by the universals *a parte rei*. What was the great argument employed by the Nominalists, and how did the Realists endeavour to refute it? Who was the great English Nominalist of the fourteenth century? Name the most eminent English Nominalists since the revival of letters. According to Stewart, this celebrated dispute is now reduced to a question of fact. Which side partial truth and partial error in the opposite doctrine.
5. In what school, and by whom do we find the principle announced, *Tout fait de raisonnement est relatif à l'état de l'esprit*?—*Science, tout est relatif à l'état de l'esprit*? Examine the validity of the grounds on which it was attempted to maintain this doctrine. Can we reason without language? Who was the author of "Eras Rursus," and what is the doctrine of the work? What, according to Stewart, is the perfection of philosophical language?
6. Stewart assumes the vague two starting modern writers of the terms *analysis* and *synthesis*. In what science were they originally employed, and in what sense? Explain the portions of the following passage printed in Italian:—"The analytical method is the best suited for the introduction of any study to a learner; but the synthetical method is the more convenient for stirring up in the mind all that is to be remembered." Languages may be regarded as *analytical methods*." The inquiries concerning the mind, founded on the hypothesis of the cultivated states—*inquiries*, which both Bacon and Condillac proposed to carry on *analytically*—were in truth altogether *synthetical*."
7. The philosophical meaning of the word *probable* is more comprehensive than the popular? How is the probability of an event represented in a fraction? In the case of our uncertain event depending upon another, how do you deduce the probability? Huxley remarks, that "probable proofs, by being added, not only increase the evidence, but multiply it;" explain this. Whately

suggests a somewhat mode of estimating the joint force of several concurrent probabilities: state and illustrate it. A writer on Evidence has said that the mode of argument in Cramonianism resembles the method of demonstration by the *reductio ad absurdum*: explain this.

8. Is it essential to valid reasoning that the middle term should be distributed in one or other of the premises? There are only two figures that allow it to be twice universal.

9. Explain what is meant by "quantifying the predicate." It is said that, by the adoption of this principle, the theory of logic will be largely developed; that its processes will be both amplified and simplified: explain and criticize these pretensions.

10. State in syllogistic form the following argument, and name its author: "It is, I think, agreed by all, that distances of itself and immediately cannot be seen. For distance being a line directed endwise to the eye, its projects only one point in the fund of the eye, which point remains invariably the same, whether the distance be longer or shorter."

11. The name *Scrivener* is not very appropriate. The German title expresses the nature of the argument better. What is the kind of argument alluded to in the line—

"Inventor, Chryseippus, talis fuit scriba!"

Show that, in a series, the first proposition alone may be particular.

12. How does the argumentum ad absurdum differ from the argumentum ad hominem? When do arguments ad hominem become fallacious; and to what head of fallacies are they to be referred? According to Stewart, the *reductio ad absurdum* is different in mathematics from what it is in other branches of knowledge.

13. State the principle and process of *reductio per impossibile*. Why may you infer that, whenever the letter M occurs in the name of a mood, the final letter must be S or P?

14. What is always the quality of a Hypothetical; and why? In what consists its contraposition? What objections have been made to the reduction of Hypotheticals to Categoricals? What are the analogous fallacies in Categoricals and Hypotheticals?

15. An ambiguity in the word *Induction* has led to much confusion. State precisely the difference between Whately and Mill with respect to the relations of Induction and Syllogism.

16. Mill is of opinion that all inference is from individual cases to individual cases. What examples does he give of reasoning without an universal. Do they seem to you conclusive? Does he attack any value to the syllogistic form? Enter fully into this question.

17. How would you distinguish necessary truth from contingent? State precisely the difference of opinion between Whately and Mill with respect to the ground of our belief in Axioms. Does Mills reasoning seem to you conclusive; and if not, why?

18. What, according to Stewart, is the real origin of the peculiar certainty supposed to belong to geometrical demonstration? How does he distinguish principles of reasoning from elements of reasoning? What, in his opinion, is the function of axioms in mathematical reasoning? In what sense is it true, and in what false, that our knowledge depends on such axioms as "things that are equal to the same," &c.?

19. Definitions occupy a different place, and discharge different functions, in mathematics, and in other sciences. In following any train of reasoning beyond the circle of the mathematical sciences, two logical processes are carried on together.

20. If the field of mathematical demonstration be limited to conditional truths, whence arises the extensive utility of mathematical knowledge in physical researches, and in the arts of life? What other sciences does Stewart mention, which, in their hypothetical character, approximate to mathematics?

21. Many causes contributed to retard the progress of the sciences in physical science. What, according to Stewart, is the highest or only proper object of physics? This idea of the object of physical science differs essen-

tially from that entertained by the ancients. What was Aristotle's definition of Cause?

22. What, according to Mill, is the only adequate definition of Cause? How does he propose to obviate the well-known objection of Reid? What does he mean by Permanent Causes?

23. State and illustrate the method of Concomitant Variations.

24. What is Whately's great division of the objects of science? On what grounds does Mill object; and what distinction does he propose?

25. What renders the *Deductive Method* necessary in the investigation of nature? What is the problem proposed to it? This method consists of three operations?

26. There are three modes of explaining laws of causation. When a sequence of phenomena is resolved into other laws, they are always laws more general than itself; why? What is subsumption? Give an illustration.

27. By what admirer has philosophy been most corrupted, according to Bacon? What was the "second school of Plato" who were its representatives; and what was its error? How does Bacon express the relation of mathematics to natural philosophy? Illustrate this.

28. What did Bacon mean by saying that "final causes are more allied to man's own nature than to the system of the universe"? Why did Descartes object to final causes? Stewart mentions several branches of inquiry in which they are assumed and studied. Mention some of the principles which have been put in opposition to the principle of final causes. Briefly discuss the general question.

27th September, 1836, 2 o'clock, p.m.

METAPHYSICS.—Examiner, Professor Moffatt, D.D.

1. What works, according to Hamilton, exhibit the first regular attempt to found philosophy on certain primary truths, or principles of Common Sense?

2. The Necessity, of which Hamilton speaks as a criterion of an original principle, is distinguished by him into two kinds. Opposite opinions have been maintained with respect to the question—whether inconceivability be the criterion of impossibility: review these opinions. Do you observe any ambiguity in the word *inconceivable* in this controversy? What is the law of Excluded Middle; and how is it applied by Hamilton to the determination of this question?

3. Compare the influences exerted by Bacon and Descartes respectively on the advancement of philosophy and science. Does Descartes seem to have been acquainted with Bacon's writings? Bacon, in Apurium LXXX. complains that natural philosophy had received but little attention, "nisi forte quis numerum alligatus in cellulis, not notitia in vultu Insuperstitio, etiamiam addiderit;" state what you know of the philosophical eclecticism obviously alluded to in the first clause of this sentence. Commentators refer the words "notitia," &c., to Descartes; does this reference appear to you just, on a comparison of the date of the Novum Organum with that of Descartes' appearance as a philosopher? Give the dates of Descartes' principal philosophical works.

4. What is the great principle of Spinoza's metaphysical theory; and how is it usually misconstrued? Principles essentially the same have been maintained at very different periods of philosophy. What is the objection common to all of them? Spinoza is said to have his basis in Cartesianism; e.g., the Cartesian definition of Substance, it is maintained, necessarily involves it. By what distinction do the philosophers of the Cartesian school reply to this?

5. Locke's observations on the subject of Personal Identity have provoked much criticism. How does Butler answer and illustrate the question, *whether does personal identity consist*? The difficulties that have perplexed this question are traceable to an ambiguity.

6. What is Locke's definition of Substance? Is there any ground for the assertion, that "Locke syste-

APPENDIX II. *metaphysically derive the idea of Substance?* What did Locke mean by *Nominal*, and what by *Real*, Essence?

—
 Reservation
 for Honors
 A.B.

7. Locke's philosophy has been made responsible for the systems of Berkeley, Hume, and Condillac: in what doctrine promulgated in the Essay have these systems been severally traced? Do you consider the deduction valid? What passage in the Essay might seem to have suggested Hume's Theory of Language? Locke, however, carefully guards against the common error of the Sensational School on this subject.

8. What were Leibnitz's criticisms of truth in necessary and contingent matter respectively? All the branches of the philosophy of Leibnitz have a common root in his theory of substances. Explain this theory; and show that it was radically opposed to the physical theories of Descartes.

9. In what consists the weakness of Clarke's attempt at disavowal in his theistic argument? The *a priori* and the *a posteriori* arguments respectively contain both an intuitive and an observational element.

10. Briefly criticise the system of Condillac. How does he account for Attention? What defects mentioned by Bacon does his system exemplify?

11. The sceptical argumentation of Hume may be reduced to three principal heads. Explain and illustrate Hamilton's remark, that "the criticisms with which Hume is assailed proceed upon the erroneous hypothesis that he was a *Dogmatist*. He was a *Sceptic*—that is, he accepted the principles asserted by the prevailing Dogmatism, and deduced their inevitable consequences." What two principles thus assumed form the basis of the scepticism of Hume? How did Kant and Reid meet the sceptical conclusions of Hume? How did the ancient sceptics differ from the modern, with respect to the foundations of their system?

12. Kant derives all knowledge from three principal faculties: name the function of each. *From what premises* does Kant deduce his remarkable conclusions respecting Space and Time? Do these premises, in your opinion, warrant these conclusions; and, if not, what conclusions do they warrant? "Time is a word," says Brown, "which expresses no actual reality;—time is not a thing, but a relation;" criticise this passage.

13. Briefly compare the Idealism of Berkeley, Kant, and Fichte. Does Berkeley's system affect the utility or progress of natural philosophy? How does he define "Love of Nature?"

14. "The whole controversy of Nominations and Conceptions is founded on the multiplicity of the terms employed. The opposite parties are substantially at one. Had our British philosophers been aware of the Leibnitzian distinction of Intuitive and Symbolical knowledge—there would have been as little difference of opinion in regard to the nature of general notions in this country as in the Empire."—(Hamilton.) Explain this passage.

15. Write down what you conceive to be the best classification of the mental faculties.

16. What, according to Brown, is "the radical distinction between man's dispositions for philosophy and the sciences?" Pope says—

"—In the soul, while Memory dwells,
 The odd power of Understanding dwells;
 Where below of woe's imagination play,
 The Memory's soft sighs and soft say."

You are invited to state your views with respect to the supposed incompatibility of some of the faculties here alluded to. What, according to Brown, is the source of the error that a good memory is unfavorable to accuracy of judgment? Locke seems to have fallen into this error.

17. "All error is a truth shared," said Bonnet. "All error," says Comte, "is an incomplete view of the truth." Briefly compare these maxims. The word *Eclecticism* is of ambiguous import in the history of philosophy.

18. Why does Brown prefer the term Suggestion to

the phrase Association of Ideas? Define the mental principle precisely. In what ancient schools of philosophy were the phenomena of Association noticed? What was meant by the saying *etia ad secundum*? What did Brown mean by Secondary Laws of Suggestion? Brown thinks that all the principles of suggestion may be reduced to one. Illustrate also, following Aristotle, sciences are universal laws. How does he determine it. Enter fully into this question.

19. How does Brown reduce the phenomena of Habit to the laws of suggestion? What is Locke's strong account of Habits?

20. What is Brown's analysis of Memory? How is it distinguished from Recollection? We find this distinction marked in Aristotle.

21. What is Brown's theory of Genius? Imagination is a creative power: name the elements that constitute it. Define and distinguish Imagination and Fancy.

22. Distinguish Will from Volition. How does Locke reply to the question, *whether man's will be free or no*? Name some of the most eminent writers on the different sides of this question. What was *Kant's* famous *reductive* of substances to the self-determining power; and how has it been replied to? What was Kant's proof of Moral Freedom? Does the doctrine of Liberty imply that men act without motives?

23. Locke is said not to have recognised the immutability of moral distinctions: can you vindicate him by reference to his works? Locke holds that Morality is capable of demonstration—why? What ideas, does he say, would afford a foundation for such a system? Would Butler agree with Locke in this?

24. The reality of a moral faculty has been negatived from the apparent absence of an uniform standard—the same things which are recommended by some nations being approved by others, &c.: exhibit in appropriate form the fallacy of this reasoning; state the fallacy, and the general kind in which it is to be refuted. How does Butler prove the existence of the moral faculty; and to what part of our natural constitution does he refer to? How does he prove, or otherwise, its immutability? What was the Practical Reasoner, and what the Judging Faculty of Kant?

20th September, 1856, 10 o'clock, a.m.

JURISPRUDENCE.

Questioner, T. K. Cliffe Leslie, Esq.

1. What is meant by *Legal Reason*, and by what process are they to be ascertained?

2. Lord Brougham has commented severely of the principal problems to be solved by the science of jurisprudence?

3. Is there any natural right of inheritance? If so, explain its foundation, and state whether you draw any distinction between natural and civil rights, as regards their nature, foundation, and sanctions.

4. a. What is Locke's theory of the origin of property?

b. When our property (in the sense of the separate possession of any article) has been acquired, as it fast, by occupancy, labour, or otherwise, in a new country, what are the chief advantages to the community of ascertaining it as a legal right, which the State is to protect?

5. State the substance of Mr. Radcliffe's account of the manner in which law was cultivated among the ancient Greeks and Romans?

6. Notice the principal improvements in the administration of justice in England, from the reign of William the Conqueror to that of Edward III., inclusive.

7. Write a short historical account of the English Poor Laws.

8. "The laws of debtor and creditor will not be fulfilled their proper function if they require to be often preciously enforced."—(Barrow's Social Economy.)

Show how such laws may be defective in this respect, and point out the injurious consequences of the defect.

9. Sanitary penal laws have a tendency to counteract their own ends?

10. What is the best assistance which the State can render by its laws to the increase of national wealth?

11. Complete the sense of the following passage, and answer the question with which it ends:—"The great object of both civil and criminal law is unquestionably the same—namely, ... In this they both clearly agree; what, then, is the peculiar province of each?"—("Reid's Inquiries in the Science of Law.")

12. Write a short criticism upon the juridical writings of Bentham.

29th September, 1855, 2 o'clock, p.m.

POLITICAL ECONOMY.

Examiner, T. E. Cliffe Leslie, LL.D.

1. "When his (Ricardo's) opponents reply that in old countries all land pays a rent, he has sometimes denied the truth of the reply."—"Senior's Political Economy." If you think it true that in old countries—England or Ireland, for example—all land pays a rent, state your reasons for that opinion. If you think it untrue, point out the circumstances which lead it on appearance of truth.

2. State, concisely, the laws which regulate price in the case of production without monopoly, and also under each of the species of monopoly described by Mr. Senior.

3. Mr. Senior says: "The prolegation of the period of advance of the capital employed in the production of the commodities which the laborer does not consume, is utterly indifferent to him." State your reasons for considering this proposition true or false.

4. State, concisely, Mr. Senior's theory of the causes which determine the general rate of profit; and if you consider the theory, thus stated, defective, point out where the defect lies.

5. State your reasons for considering the following *ARISTOTELIAN* propositions true or false:—

Translation
for Examen
A.E.

a. "Protective duties do not equalize the conditions of production."

A. "Free trade brings those conditions as much as possible to the same level."

c. "The least favored countries gain the most by exchange."

6. "Suppose England can produce an article for £100, and can import it for £120, by importing it, instead of producing it, she gains £1; and though she pay for it with her own manufactures, loses £100 of wealth which she might have created—this is, on the balance she loses £99."—"Sophisms of Free Trade, by a Barrister." Prove the absurdity of this statement.

7. State the doctrine of the Balance of Trade, and prove its absurdity.

8. Trace the incidence of a tax on each of the parts into which A. Smith divides the rent of a house.

9. Trace the incidence of a tax on a business, in a given country, on the prices of provisions, of manufactures, and on the rate of interest.

10. What are the causes which determine the natural amount of the currency of a country?

11. The exchange between two countries may be affected by inequalities either in the value of bullion, or the supply of bills. How are the trades of exportation and importation affected in each case?

12. "It is said that the increased sums applied by Government to the support of our armies and navies in time of war, lead to an increased circulation of money among the classes who compose the army and navy, and a rise of price in the articles they consume. It is said further that the increased necessity for various kinds of manufactured articles, required for the equipment of our fleets, causes increased activity among the producers of all such articles, and an increased demand for labourers, and a further action upon prices, in consequence of their increased consumption."—"Papers of the Dublin Statistical Society." Point out the fallacies involved in this reasoning.

EXAMINATION FOR DIPLOMA IN ELEMENTARY LAW.

24th September, 1855, 10 o'clock, a.m.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—KRAMER, Mr. Drury.

1. What is an incorporeal hereditament, and enumerate the chief species?

2. Explain the nature of a mortgage, and what are the rights and remedies of the mortgagee.

3. A executes a mortgage in fee of his estate to B; B dies intestate; A is desirous to pay off the mortgage; who is or are the proper party or parties to release the debt and recover the land?

4. What is meant by a lease for?

5. What are the requisites to make a tenancy by the curtesy?

6. A *feus covert*, tenant in tail male, dies, having only a daughter heir; will her husband, surviving her, be tenant by the curtesy?

7. Is a *feus covert* enabled during her coverture to dispose of her real estate, whether in possession or reversion; and if so, by what means?

8. What is a resulting use?

9. What is the difference between "Heir Apparent" and "Heir Presumptive," and give an illustration?

10. What are the four incidents to a tenancy in tail under the Statute of Westminster the Second?

11. A tenant in tail to possession of a freehold estate is desirous to bar the entail and acquire the absolute interest. Can he do so by any, and what means?

12. What is the nature of the estate of a tenant in tail after possibility of issue extinct? Has such tenant in tail the same powers over his estate that a tenant in tail general has?

13. A is possessed of a term of years, and dies, having appointed B his executor; B dies intestate. By whom can the term of years be assigned?

14. If lands be limited by deed to A for life, with remainder to his right heirs, what estate does A take? Suppose the limitation be by will, is the result the same?

15. Lands are conveyed to A and his heirs to the use of B and his heirs, in trust for C and his heirs. What estates do A, B, and C, respectively take?

16. What formalities are now required for the due execution of a will? Was the rule of law in this respect always the same as it is at present?

17. What is the effect of a person interested under a will being an attesting witness?

18. To whom will a *leged devise* of real estate, contained in a will made since January, 1838, pass?

Examination
for Diploma
in Elementary
Law.

24th September, 1855, 10 o'clock, a.m.

JURISPRUDENCE.

Examiner, T. E. Cliffe Leslie, LL.D.

1. Explain the method and uses of philosophical jurisprudence.

2. Explain the method and uses of historical jurisprudence.

3. Explain the maxim, *ius privatum est etiam juris publici latet*.

4. State your opinion as to the propriety of the classifications denoted by the phrases, *divine rent and personal, corporeal and incorporeal hereditaments*.

5. Give a short account of Savigny's theory of the origin of customary law.

E

Answers II.
Examination
for Honors in
Elementary
Law.

6. "The division of rights ought to correspond with the division of offices."—*Restatements*. Show that such a division would be defective.
7. How do you account for the difference of the laws regulating the *devolution of real and personal property*?
8. There is a class of cases in which custom is, according to Savigny, the original foundation of positive laws.
9. Show how the feudal institutions retarded the progress of agriculture after the fall of the Roman empire.
10. "In this way arises what we may call the *first division of coercive law*."—(*Blackstone's Inquiry*, p. 24.) What division of law is here referred to, and how does Mr. Blackstone explain its origin?
11. Point out the connection, if any, and the distinction, between *office and jurisdiction*.
12. "To know well the laws of nature," says Montaigne, "it is necessary to consider man before the establishment of civil societies; and the laws of nature will be those which he would receive in such a state." Express the fallacy of this statement.

24th September, 1886, 2 o'clock, p.m.

QUESTIONS.—*Examiner, Mr. Drury.*

1. A enters into a contract in writing to sell an estate to B, and afterwards refuses to convey. How B may remedy its equity?
2. What is meant by equitable conversion?
3. What course of proceeding is open to a trustee who is desirous to be relieved from the performance of his trust?
4. Can a married woman sue in a court of equity, and how?
5. In the administration of the estate of a deceased person, what is the order of payment of the different species of debts?
6. What is meant by the marshalling of assets?
7. What is the nature and effect of a bill of interpleader?
8. Previous to the Court of Chancery (Ireland) Regulation Act, 1850, how were proceedings in the Court of Chancery commenced, and how carried on?
9. What is the mode of commencing proceedings in the Court of Chancery at the present time?
10. What is an injunction in equity? Mention some cases in which it may be obtained?
11. In what manner does a court of equity afford protection to infants?
12. Distinguish between trusts executed and trusts executory, and state if there is any, and what difference in their construction?

COMMON LAW AND ORDINAL LAW.

Examiner, Mr. Drury.

1. What is a simple contract; and in what respects does it differ from a contract under seal?
2. What is the difference between express and implied contracts? Give some illustrations of contracts of the latter description?

Examination
for Honors in
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Law.

EXAMINATION FOR HONORS IN ELEMENTARY LAW.

September, 1886.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—*Examiner, Mr. Drury.*

1. Explain the nature of estates held in joint-tenancy, tenancy in common, and in co-parcenary, and in what essential particulars do they differ.
2. What are the three species of reversion in common law? State particularly how they differ from each other?
3. A reversion in fee conveys a conveyance to B in tail, reserving a rent. Is this rent a rent-service, rent-charge, or rent-suck?

3. State the parties to a bill of exchange, and which of them is primarily liable; and what is the liability incurred by an indorser?
4. How might a bill of exchange to be made payable, in order to make it negotiable?
5. What is the difference between a general and a special acceptance of a bill of exchange, and what is meant by an endorsement in blank?
6. Can an infant bring an action at law, and how?
7. What things are privileged by law from distress for rent?
8. What is required by the Statute of Frauds to make a contract for the sale of goods for the sum of £10 and upwards binding?
9. What is a guarantee, and how is it effected by the Statute of Frauds?
10. What is the meaning of the term "Caveat in Action," and what subjects does it comprehend?
11. In what cases may a plaintiff be compelled to give security for costs? How should the application be made, and when?
12. What is meant by stoppage in transitu?
13. A dies, having made his will, and appointed X and Y his executors; X signs proves the will in the proper ecclesiastical court; in whose name or names ought an action to be brought for the recovery of any portion of A's assets?
14. What is the difference between murder, manslaughter, and homicide?
15. Define the offences of larceny at common law, and explain the difference between larceny and embezzlement?
16. What is burglary?
17. Define what is felony?
18. Under what age is an infant considered incapable of committing a felony?
19. Can an indictment found in an inferior court be removed for trial into a superior court, and by what process?

24th September, 1886, 2 o'clock, p.m.

CIVIL LAW.—*Examiner, T. R. C. W. G. Leslie, M.A.*

1. What were the sources of the Roman law in the time of Justinian?
2. What was the *Protesta* Bill?
3. "The *Jus Civile* of the Romans," says Henry, "seems to the correct definition of natural law, and is not what modern jurists designate as the law of nations." Explain this observation.
4. Why, according to Lord Bacon, was Justinian's age an unfortunate period for the civilization of the Roman law?
5. Explain the distinction between *jus in re* and *jus ad rem*.
6. What is meant by co-ownership?
7. What is meant by a joint-tenancy?
8. What is meant by a joint-tenancy?
9. Give a short account of the Roman law of guardianship.
10. What is the distinction between the Roman Ager, and the English Ager?

4. Suppose an acre granted by A, *simpliciter*, to B and his heirs, how long does the acre last?
5. A died in the year 1830, and by his will bequeathed a chattel real to B, and on his dying without issue, to C; what estate does B take? Would the result be the same, suppose the testator to have died in the year 1850, and his will to bear date the same year (1850)?
6. Is there any, and what distinction between the devise of a real estate to A and his heirs, charged with the testator's debts, and a devise to A and his heirs, upon trust to pay testator's debts?
7. A lease for years to A and his heirs, to whom does it go upon the decease of A, and why?

8. A, seized and possessed of real and personal estate, dies intestate, leaving a widow, two sons, and two grandchildren, the issue of a deceased daughter. On whom does the testator's real and personal estate devolve, and in what proportions?

9. An estate is devised to A. for life, and after his decease to the heirs of his body. What estate does A. take?

10. An estate is devised to A. for life, and after his decease to his heir male, and the heirs male of such heir male. What estate does A. take?

11. On what estate does dower attach? Does the same rule obtain in the case of a feme married thirty years since?

12. A. fides is entitled to chattels real and chattels personal, or choses in action. She marries without settlement. Explain the rights which the husband and wife have, respectively, in the above chattels.

13. Suppose the husband, referred to in the preceding question, to survive his wife, how do the chattels therein mentioned devolve?

26th September, 1856, 10 o'clock, a.m.

JURISPRUDENCE.

Examiner, T. E. Cliffe Leslie, LL.B.

1. "There are three great systems which together constitute the triple basis of the national jurisprudence of Europe."—(Article on Law, *Encyc. Metrop.*)

a. Give a short account of the three systems of law here referred to.

b. In what sense is the term jurisprudence used in this passage?

c. In what other sense is it used?

2. "The science of jurisprudence properly admits of being treated in four different ways, philosophically, historically, didactically, and casuistically."—(Article on Law, *Encyc. Metrop.*)

a. Explain the four methods here referred to.

b. Is jurisprudence, considered as a science, susceptible, in its present state, of all these methods of treatment?

3. What are the sources of the private law of a state?

4. "If the Roman lawyers erred in founding the *Jus Gentium* too much upon . . . if Grotius and his followers erred in adopting . . . as the principal foundation of law, later modern jurists erred equally in adopting a . . . basis solely for law. This remark is peculiarly applicable to the *Wolffian* philosophy."—(Hodgkin's Inquiry in the Science of Law.) Complete the sense of this passage, and criticize the errors referred to in it.

5. What is meant by a "conflict of laws?"

6. To what period do you refer the establishment of each of the following institutions:

a. County Courts of England?

b. Court of Common Pleas?

c. Judges of Assize?

d. Trial by Jury (in the modern sense)?

7. It is said by some writers that the jurisdictions of the ecclesiastical and civil courts were reunited in the reign of Henry I.

a. When were the jurisdictions of these courts first separated?

b. If they were reunited in the reign of Henry I, when were they again separated?

c. If they were not so united, how can the supposition that they were so be accounted for?

8. To what period do you refer the commencement of the practice of employing attorneys in the superior courts?

September, 1856.

EQUITY.—Examiner, Mr. Drury.

1. In what cases will a court of equity interfere to give effect to a voluntary deed, and when not?

2. A executes a voluntary settlement of real estate, and subsequently sells the property included therein to a purchaser for valuable consideration, who had notice of the voluntary settlement. Which title will prevail?

That of the party claiming under the settlement, or that of the subsequent purchaser?

3. What is meant by overreaching "out and out," and give an illustration of each occurrence?

4. A testator devises his real estates to trustees upon trust to sell and convert some into money, and out of the proceeds thereof to pay his debts, but makes no disposition of the surplus. To whom does such surplus belong?

5. Is there any, and what property in the possession or control of a bankrupt, which does not pass to his assignees?

6. Is an executor justified in paying a debt of his testator, which is barred by the Statute of Limitations?

7. What is meant by the vendor's lien? How is it acquired, and how lost?

8. Will a court of equity in any, and what cases, give relief where a contract for the sale of land is not reduced to writing?

9. What is the nature of a decree of a court of equity? How does it operate? How is it enforced?

10. What is the meaning of the wife's equity in a settlement? State the origin of the rule, and in what property it applies.

11. Mortgage by a client to his solicitor for costs due at the date of the deed, and subsequently to grow due; the solicitor institutes a suit in a court of equity to raise the sum intended to be secured by the mortgage. Has the client any defence?

12. A purchases real estate, and pays part of the purchase-money, and dies possessed of a small personal estate, having appointed the vendor, who was his heir-at-law, to be his executor. The vendor, by his will, makes no disposition of any part of his real estate. How is the personal estate of the testator to be administered? Is the vendor entitled to retain out of the personal estate for the balance of the purchase-money?

13. A on his marriage with B, covenants with trustees to pay a sum of money, to be laid out in land, to be settled upon A. for life, with remainder to B for life, with remainder to the sons of the marriage, successively in tail male, with remainder to A. in fee; B dies without issue made in the lifetime of A. Upon A's decease (the money being unpaid) can his heir compel his personal representative to perform the covenant?

September, 1856.

COMMON LAW AND CRIMINAL LAW.

Examiner, Mr. Drury.

1. Enumerate the contracts which, by the second section of the Statute of Frauds in this country, are required to be in writing to be binding?

2. What is the difference between an executory and an executed consideration, and between a concurrent and a continuing consideration? Give an example of each species of consideration.

3. A dies, having made his will, and appointed B and C his executors, who both prove the will. B dies, in the lifetime of C, intestate. In whose name or names, ought an action to be brought for the recovery of any portion of A's estate?

4. Suppose B and C, in the preceding question referred to, both dead, and that B survived C, having made his will and appointed D to be his executor, in whose name, in that case, should the action be brought?

5. Can money wrongfully paid be recovered back; and if so, under what circumstances?

6. What is required to render a bill of sale valid against an execution creditor?

7. A consigns goods to B, and before delivery of the goods, B induces the bill of lading to C for valuable consideration, and becomes insolvent. Is A entitled to stop the goods in transit, or will C's title prevail?

8. A brings an action against B, in the year 1856, in respect of a debt which accrued in the year 1846, at which time B was in Ireland. In the year 1850 B went abroad, and did not return until the year 1856. B pleads to the action the Statute of Limitations. Can B's defence be sustained?

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9. At the time of A's death, B owed A £100. A also had a right of action against B for a libel. Can the executor of A maintain an action against B in respect of both, or either, and which of the above causes of action?

10. What is the difference between perjury and subornation of perjury?

11. Are declarations made by a murdered person before his death admissible in evidence against the prisoner under any, and what circumstances?

12. What is the difference between a principal in the first degree and in the second degree?

13. What is meant by an accessory? How many kinds of accessories are there? In these any difference in the punishment of the principal and the accessory?

14. What is meant by misprision of treason, and what is the punishment?

15. What effect on the status of the wife has the conviction of her husband for felony?

20th September, 1885, 2 o'clock, p.m.

CIVIL LAW.

Examiner, T. E. Cliffe Leslie, Esq.

1. "The Law of Things may be divided into two parts, *Domestic and Obligations*."—(*Bowyer's Civil Law*.) Explain the terms in *Italian*.

2. "Sovereigns are of two species in the civil law, *ie., Perpetual and Real*." Explain these terms.

3. Explain the following terms:—*quæra inofficiis, testamentum inofficiis, sollicitudo bonorum, curia bonorum*.

4. Explain the nature and origin of *Substitutions*.

5. What are the advantages and disadvantages of general and specific legacies respectively?

6. What was the *Fiduciarium* law?

7. Point out the resemblances between the Roman system of preventive justice and that exercised by the Court of Chancery.

8. Give an account of the introduction and subsequent history of the civil law in England.

EXAMINATION FOR THE DEGREE OF M.D.

Examination
for the De-
gree of M.D.

16th September, 1885, 10 o'clock, a.m.

PRACTICE OF MEDICINE.

Examiner, S. Gordon, Esq.

1. Describe some of the morbid conditions of the tongue, and the indications deducible therefrom.

2. Describe the symptoms and differential diagnosis of abscess of the liver.

3. Is there any supposed connexion between abscess of the liver and dysentery, and is such connexion universally acknowledged?

4. What are the different causes of jaundice?

5. Select any one of these causes, and describe the accession and progress of a case of jaundice induced thereby.

6. Describe, in general terms, the plan of treatment you would adopt in the above case. Write, in Latin, without any abbreviations, two or three of the prescriptions to be compounded for this case.

7. Describe the appearance, pathology, and mode of treatment of a case of *peritonitis hepatica* (Bosman.)

8. In what diseases is the fatty degeneration of the liver most readily found? What are the morbid appearances indicative of it? and what is its pathology?

16th September, 1885, 2 o'clock, p.m.

SCIENCE.—*Examiner, Christopher Fleming, M.D., F.R.C.S., M.R.S.A.*

1. What is the general classification of injuries of the head, and what are the complications which may attend on those of the scalp, and the contingencies incidental to them in their progress to cure.

2. State the several situations in which abscesses connected with curves of the spine may present themselves; note the ordinary characters of such abscesses, and their suitable treatment.

3. Mention the circumstances which may require the application of a ligature on the femoral artery; give the details of such operation, and mark its principal difficulties.

4. Describe the disease termed *staphylococci*; specify its varieties and its treatment.

5. Enumerate the several tumors which may occur in the region of the nasal process; give their distinctive characters, and point out their treatment.

20th September, 1885, 2 o'clock, p.m.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.—*Examiner, Professor Doberty, M.D.*

1. What is meant by "the ovular theory of menstruation"? If a woman be suddenly during the presence of the menses, what appearances, due to the latter, will be discernible during post mortem examination?

2. Menstruation is sometimes attended with much pain, and the expulsion of membranous flaps. What appearances do such membranes exhibit under the microscope?

3. In a case of abortion, how would you distinguish between the pueri and a clot of blood occupying the os uteri? What treatment would the former require?

4. What symptoms are common to abortion, and to intra-uterine polypus? How would you distinguish such cases?

5. What other causes, besides pregnancy, may raise the uterus out of the pelvis, so that the os uteri can with difficulty be reached by the finger?

6. During the puerperal state, what indicate the approach of labour at the full term, when is the os uteri usually to be found? Can you explain why it is so placed?

7. Delay in the accomplishment of the changes which should take place in the neck of the uterus after labour has regularly set in, is a cause of tedious labour; contrast the conditions under which this occurs in different cases, and the treatment suitable in each.

8. Why does division of the bladder retard labour? Describe the situation of the means of division, and the mode of using the catheter.

9. Long continued pressure of the fetal head on the neck of the bladder may produce stricture; awkward attempts at delivery may likewise produce a communication between the bladder and vagina. At what time is incision likely to show itself in each case?

10. What are the parallelisms of the fetal os, and of the mode in which it passes through the pelvis, that facilitate delivery.

11. Suppose a foot presentation to have been placed at an early stage of labour, so that the abdomen of the fetus was towards the abdomen of the mother, and delivery to have been accomplished without artificial aid. How will the fetus have marked itself to the maternal passages?

12. In head presentation, how would you distinguish whether it was the right head or the left which presented?

13. Would your treatment of a case of head presentation be modified by the fetal head being in close proximity to the cervix?

14. What are Hovell's views regarding the changes which the uterus undergoes during its reversion to the condition that existed before impregnation?

15. How may this process be interrupted, and what consequences are entailed by an imperfect involution of the organ?

16. Describe minutely how a newly-born infant is dressed by an experienced nurse.

17. When the first respirations are imperfectly performed, part of the lung may continue to present the fetal character. What cause has this defect received? Under what circumstances, and with what consequences,

is a return of a portion of a lung to its primitive condition possible at a later period of life?

18. What are the symptoms and signs of infantile pleuritis? Is there a peculiar attitude, that is frequently observable, when the disease exists? Whether in uncomplicated pleuritis or uncomplicated pneumonia the more common in infancy?

17th September, 1886, 2 o'clock, p.m.

MEDICAL JURISPRUDENCE.

Examiner, William Barker, M.D.

1. On what does the poisonous property of what is known as the oil of bitter almonds depend?

2. What classification of poisons is usually made by writers?

3. State the reagents you would employ to determine a poison to belong to the inorganic class of bodies.

4. In a case of poisoning by a gas or vapour containing arsenic, where would you expect to find traces of the poison?

5. What are the points most necessary to attend to in a case of suspected infanticide?

6. State the symptoms of poisoning by opiate tartar.

7. What are the difficulties attendant on the analysis of a mixture supposed to contain strychnine?

8. Describe the symptoms in most cases of arsenical poisoning, and to what degree they may aid in diagnosis.

9. State the symptoms arising from an overdose of the aceticum tartaricum, and the modes of discovering the cause of death arising from it.

10. In death from a gun-shot wound, state the circumstances which would establish it as a case of suicide.

11. State the symptoms of poisoning by strong sulphuric acid.

12. State the symptoms of poisoning by sales of copper, and the methods of detecting their presence in organic mixtures.

17th September, 1886, 2 o'clock, p.m.

MATERIA MEDICA.

Examiner, William Barker, M.D.

1. What are the processes for preparing emetic tartar, and what are the tests of its purity?

2. What are the principal impurities found in it?

3. Mention the principal substances incompatible with it, and its doses.

4. State the properties of sulphuric, citric, tartaric acids, and lemon juice, requisite to neutralise given quantities of carbonate of ammonia, and bicarbonate of soda.

5. What is the difference, in chemical composition, between lemon juice and citric acid?

6. In what cases of diseases is electricity most beneficially employed?

7. State the species of electricity employed, and the methods of its application.

8. What is the process for preparing diacetylene, and what are the tests of its purity?

9. Write prescriptions, each containing the proper medicinal doses of strychnine, morphia, piperazine, opium, and aqua lauro-cerasi.

10. State the different preparations of mercury used in medicine, and the doses of each.

11. State the processes which may be employed for the preparation of acetic acid, and its ordinary impurities or adulterations.

12. Name the substances placed before you.

13. Mention the principal anæsthetic agents used in medicine, and their modes of application.

14. Prescribe two eight-ounce purgative mixtures, one containing aloes, the other phosphate of soda.

15. Write a formula for pills to be administered in active hæmorrhage.

18th September, 1886, 10 o'clock, a.m.

ANATOMY.—Examiner, J. H. Corbett, M.D.

1. What are the ligaments, fissures, lobes, and visceral relations of the liver?

2. What are the features distinguishing the seventh

carried and first dorsal vertebrae, from the other bones of the spinal column?

3. Describe the articular surfaces of the bones entering into the knee-joint; also the ligaments, synovial membrane, and fibro-cartilages of that articulation.

4. Mention the tendons, vessels, and nerves, in relation with the ankle-joint, in their exact order.

5. Describe the cornea, relations, and branches of the branchial artery.

6. Describe the origin, course, and branches of the pneumo-gastric nerve.

7. Describe the structure of the œsophagus, its cervical, thoracic, and abdominal relations.

8. In what manner may the pancreatic gland be exposed in dissection. Give an account of its structure; of its vascular, nervous, and visceral relations.

9. State the limits of the left ventricle of the heart, when viewed at the anterior and posterior surfaces of that organ, and then proceed with a description of its internal arrangements.

10. Describe the origin, course, and surgical relations of the internal epigastric artery.

18th September, 1886, 10 o'clock, a.m.

ANATOMY.—Examiner, J. H. Corbett, M.D.

1. Describe the articular surfaces and ligaments of the hip joint; then state the relations of muscles, vessels, and nerves, with respect to it.

2. Give an outline of the parts concerned in femoral hernia; mention the disposition of the several fasciæ and the vascular relations, both normal and irregular, of importance in the practice of surgery.

3. What are boundaries of the axillary region, the stages, relations, and branches of the axillary artery?

4. Describe the various membranes of the tongue, its papillæ, muscles, vessels, and nerves.

5. What are the relations, infections, stages, and branches, of the internal carotid artery?

6. Compare the membranes of the brain with those of the meninges.

7. How are the optic nerves connected with the brain and with each other; what is the organisation of the retina?

8. Describe the common iliac arteries and veins.

9. What are the relations peculiar to the urinary bladder in the female subject?

10. Describe the prostate gland and urethra.

11. What are the structures composing the bronchial tubes and air vesicles?

12. Describe the portal venous system.

18th September, 1886, 2 o'clock, p.m.

PHYSIOLOGY.—Examiner, J. H. Corbett, M.D.

1. Give an account of some observations and experiments which have been conducted with a view to ascertain the capacity of the chest for respiration.

2. Is the heart the sole agent in carrying on the circulation of the blood?

3. State some experiments made on animals in order to determine the functions of the different nerves supplying the respiratory organs.

4. Describe the impulses and sounds which accompany the action of the heart.

5. Describe the physical properties and microscopical characters of the yellow elastic tissue.

6. Give an account of the changes which the alimentary mass undergoes from its passage through the pyloric valve, until its arrival at the ileo-cæcal aperture.

7. Describe the structure and office of the choroid coat of the eye.

8. What are the alterations in the state of the blood, dependent on the due performance of respiration?

9. Describe the structure and functions of the external tegumentary tissue.

10. Detail the researches and experiments of Dr. Beaumont on the subject of digestion.

APPENDIX II.
Examination for the Degree of M.D.

18th September, 1853, 2 o'clock, p.m.

PATHOLOGY AND COMPARATIVE ANATOMY.

Examiner, J. H. Corbett, M.D.

1. Describe the function of the liver; give an account of the composition and use of the bile.
2. What are the changes in the state of the atmosphere air produced by animal respiration?
3. Describe the mechanism by which the chest is alternately enlarged and diminished in respiration.
4. What do you understand by the term asphyxia? Enumerate the principal modes by which that state may be induced. What are the physiological conditions of the organs of circulation and respiration during asphyxia?
5. To whom do you attribute the discovery of the leucine? Give an account of the structure and office of this division of the chemical system.
6. Classify alimentary substances into groups, and afford an outline of their composition, also of their relative degrees of digestibility and solubility.
7. Describe the process of renal secretion. Mention the composition of that fluid, and the variations in quantity and specific gravity under different circumstances.
8. How do you show that the spinal cord is endowed with powers independent of those resulting from its connection with the brain.
9. Describe the structure and office of the aortic valves.
10. Mention the anatomical arrangements peculiar to the eye of the bird.
11. Describe the anatomy of the respiratory organs in fishes.
12. What are the contrivances resorbable in the digestive apparatus of the gregarious bird?

18th September, 1853, 2 o'clock, p.m.

NATURAL PHILOSOPHY.

Examiner, G. Johnson Stacey, A.M.

1. An uniform straight lever, three feet in length, weighs five lbs., and has its fulcrum three inches from one end; what weight must be hung from that end to produce equilibrium?
2. By what experiments may the centre of gravity of a ladder be determined?
3. The friction on a railroad is about $\frac{1}{200}$ th of the pressure, whether the speed be high or low; show that it follows from this that an engine of more energy is required to overcome the friction at a high than at a low speed.
4. (a.) Define an uniformly accelerating force.
(b.) Describe the method by which the acceleration which is due to gravity may be determined from experiments.
5. When a hammer strikes a rivet, point out, with as much detail as you can, what becomes of the power which had been communicated in the hammer.
6. Calculate the centrifugal force at Jupiter's equator, on the supposition that he rotates on his axis in ten hours, and that his equatorial diameter is 80,000 miles.
7. Show, from your knowledge of the motions of the earth and moon, that the illuminated part of the moon's disk will be convex towards the west while she is waxing, and towards the east while she is waning.
8. Account for the phenomenon of intermittent springs.
9. Describe the method by which the coefficient of compression of a liquid should be determined.
10. Describe some experiment in which heat is produced from electricity, and another in which electricity is produced from heat.
11. State the circumstances under which a current of electricity can be obtained by means of a permanent magnet.
12. Explain how a convex lens enables us to see near objects magnified.

19th September, 1853, 10 o'clock, a.m.

CHEMISTRY.—Examiner, J. Dillith, M.D.

1. State the laws of combination by weight.
2. How is carbonic oxide prepared? Give its properties and composition by weight and by volume.
3. Describe the preparation and properties of chlorine gas. What is the best mixture for evolving this gas slowly, when used as a disinfectant?
4. In what respects do the methods of preparing HCl, HI, HBr, &c. gases, differ? Why cannot nitric processes be adopted for each?
5. How are gases on parchment produced by arsenic, and distinguished by hydrogen distinguished from each other?
6. What are the reactions produced on heating opium in aqueous solution?
7. Give the most characteristic reactions for phosphoric, nitric, hydriodic, hydrocyanic, and chloric acids.
8. Potash, soda, and ammonia are in the same section, how are they detected?
9. Explain the binary theory of acids.
10. Explain the reactions which occur in preparing oxide of antimony, according to the *Théâtre Plama-copée*.
11. Give the mode of preparation, and the constitution of white phosphorus. By what means would you detect its different constituents?
12. Give the formulae of the different oxides of iron. State the mode of preparation of the hydrated sesquioxide and of the magnetic oxide of iron.
13. Explain the difference between constitutional water and water of crystallization of salts; illustrate by examples.
14. To what homologous series do formic, butyric, and valeric acids belong? Write the formulae of the corresponding aldehydes.
15. Give, by synthesis, the reactions which occur in the preparation of hydrated hyponitric acid. How is the percentage of nitrogenous acid present in any specimen ascertained?
16. Give the means of distinguishing from each other the precipitates produced by HCl in solutions of sodium and ammonium salts.
17. Describe the process for determining the strength of organic substances by converting it into succinic acid.
18. What is the constitution of ferrous salt? Whence is it supposed to be derived in the animal economy?

20th September, 1853, 10 o'clock, a.m.

BOTANY.—Examiner, Dr. McNeill.

1. Describe the structure of the epidermis in plants, stating the various forms which it assumes, and the nature of the cuticle as distinguished from the cellular layers of *Mold*.
2. Describe the structure, mode of development, and histology of the vegetable cell.
3. Define the terms—*Cormus*, *Archaem*, *Protestis*, *Papaver*, *Polyporus*; give examples.
4. State the *Liliaceae* classes and orders to which the plants in the table are respectively referable.
5. Give the principal characters of the natural orders—*Ardelet*, *Orchidaceae*, *Sulaceae*.

ZOOLOGY.

1. Enumerate the groups into which the class *Insecta* is usually divided; state the chief diagnostic characters of each, and give examples.
2. Define the class *Annelus*; state its subdivisions, and give their principal characteristics.
3. State the dental formulae of the skulls of the table, and refer them to their respective orders and families.
4. Refer the specimens on the table to their respective orders, and state your reasons.

APRIL 1856.

25th September, 1856, 2 o'clock, p.m.

Examination for Honors in the Faculty of Medicine.

SURGEY.—Examiner, Christopher Fleming, M.D., F.R.C.S., M.R.S.A.

1. Describe the symptoms and external characters of febrile fevers; note its complications, and the diseases with which it may be confounded?
2. In compound fractures of the pith, how is the treatment of the surgeon to be modified?
3. Yaws, what is their relative order of frequency of occurrence, the several varieties of ulcers, and specify the different causes of that affection?
4. Who first performed the operation of excision of the elbow joint, and in what cases is it recommended?
5. Give, in technical terms, the syphilis of India.
6. Mention the different forms of pterygia of the eye, and the treatment applicable to them.

25th September, 1856, 2 o'clock, p.m.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

Examiner, Frederick Dobson, M.D.

1. Instances are frequently met with in the human subject in which the uterus is double in all its parts; others, in which though double above, the two uteri become blended below, and open into the vagina by a single aperture; others, in which the upper angles are so prolonged as to constitute a uterus bicornis. Give examples from the animal kingdom, wherein the natural condition is analogous to these malformations respectively?
2. In the erect posture of the human female, how is the uterus placed with reference to the horizon, and to the axis of the trunk of the pelvis? Does gestation, during its successive stages, make any alteration in this position?
3. In the most usual position of the foetal head at the commencement of labour, to what diameter of the brim of the pelvis does its long diameter correspond?
4. Is this the case when the precociousity of the osseous process abnormally?
5. If at this stage the long forceps be properly applied, and leave marks of pressure on the fetus, where will these marks be found?
6. Is rupture of the osseous mass likely to occur in labour complicated with delivery in the brim of the pelvis, when the delivery is moderate in degree, or when excessive? State the grounds of your opinion.
7. Ectrocervix detaches from within outwards, which constitutes the force of the female pelvis.
8. In using the short forceps, when the head is near the perineum, in what direction should the extracting force be applied?
9. In cases of preterm labour, what ill consequences are likely to arise to the third stage, and how can they be best avoided?
10. What are the pericervical changes in the vascular system of the gravid uterus, which while they predispose to hemorrhage, enable the toxic action of the osseous mass to act so effectually in arresting an escape of blood?
11. Describe the apparatus which a placenta exhibits on coagulation, when hemorrhage has prevailed from accidental or unpreventable causes.
12. The placenta, as regards the form which it assumes in the animal kingdom, may be described as the diffuse, the tufted, the avicular, and the divided. Give examples in which these forms respectively prevail.
13. How is the form of the avicular placenta accounted for?
14. Describe, minutely, the placental and embryonic in those animals in which the tufted variety occurs. How far can a resemblance be traced between this arrangement and that which exists during pregnancy in the human species?
15. Under what circumstances may the infant be attacked with hemorrhage from the fetal vessels, or from the umbilical?
16. What malformations of the rectum have been

found in the newly-born child? How far are they remediable?

17. Powers of the rectum in the adult female, and painful affections of the osseous have many symptoms in common. Give the diagnosis, and mention where the former is most usually to be found.

18. Contrast the symptoms, which in the adult female are caused by adhesion in the bladder, by neuritis, by vascular tumour of the vesicular substance, and by hypertrophy of the cellular tissue around the vesicle.

25th September, 1856, 2 o'clock, p.m.

MATHEMATICS, PHARMACY, AND MEDICAL JURISPRUDENCE.

Examiner, William Barker, M.D.

1. State the principal cathartics used in medicine, and the parts of the alimentary canal affected by them.
2. State, in the suggested order of their activity, the most common diuretics employed in medicine.
3. What are the general and constitutional effects of iron on the natural economy, and what are the changes it is expected to produce in the system.
4. Mention the different rheumata produced by lead, and the method of removing it in mixed rheumata.
5. What inquiries may exist in the case of emphysema, and how can they be detected?
6. Describe the process for obtaining benzoic acid, its uses in medicine, and its effects on the secretion.
7. To what pharmacological uses is fixed oil applied, and what is its composition?
8. Describe the processes for obtaining the ether used in pharmacy.
9. What is the process for preparing tartaric acid, and what change does it undergo by oxidation?
10. How would you ascertain the presence of boron in a mixture of boron and 4 parts of potassium.
11. Mention the substances used as antidotes, and the theory of the action of each?
12. What is the minimum dose of arsenic which will act as a poison, and how soon will the symptoms of poisoning appear after it has been swallowed?
13. Describe the symptoms of poisoning by phosphorus?
14. Describe the symptoms of poisoning by sulphurated hydrogen, and the probable percentage of the gas which will enter the atmospheric medium.
15. State the symptoms of poisoning by castor-oil, and how their presence might be determined.
16. In cases of vomiting or prostration of the stomach, how could you ascertain whether these effects were the results of poison or disease.

For Candidates who have passed the Examination for the Degree of M.D.

25th September, 1856, 10 o'clock, a.m.

ANATOMY AND PHYSIOLOGY.

Examiner, J. H. Corbett, M.D.

1. State the microscopic characters of the gastric glands or follicles.
2. What are the changes taking place in the direction of the circulating current after the first inspiration?
3. Describe the sublingual and submandibular glands.
4. Mention the experiments of Magendie in reference to the sense of smelling.
5. Describe the hyaline gland, the nasal cartilage, and Malpighian follicles.
6. What are the vascular arrangements peculiar to the fetal liver?
7. Describe the microscopic characters of the different kinds of nervous matter, and state the prevailing opinion regarding the office of each in the function of sensation.
8. What are the physiological conditions of an animal during hibernation?
9. How is the glottis protected during deglutition?

10. Describe the sensitive plexus of the sympathetic nerve and their communications.

11. How and with what results have the vital properties of muscular fibres been investigated experimentally by physiologists?

12. State the arterial innervations extending from the commencement to the termination of the alimentary canal and the system served by each disposition of the circulating system.

ANATOMY.—*Examiner, J. H. Corbett, M.D.*

1. Mention the components of the spermatic cord; describe the inguinal canal, its mechanical construction, commencement, termination, and boundaries.

2. Describe the articular surfaces, the ligaments and synovial apparatus of the sternoclavicular articulation.

3. Mention the parts which present themselves successively, in dissecting the submaxillary region, from the cutaneous surface to the mucous membrane of the mouth.

4. Describe the several relations of the parotid gland and Steno's duct.

5. Describe the form, position, and connections of the fornx cerebri.

6. Describe the soft palate, its muscles, vessels, and nerves.

7. Describe the right, course, relations, and branches of the ligament of the bladder.

8. Describe the triangular ligament of the urethra, and mention the parts in relation with its pelvic and perineal surfaces.

9. Describe the course, relations, and branches of the posterior tibial artery.

10. Describe the inferior cranial nerve.

For Candidates who have passed the First Examination.

ANATOMY AND PHYSIOLOGY.

Examiner, J. H. Corbett, M.D.

1. What are the microscopic features of the adipose tissue?

2. What are the conditions which either promote or retard the entrance of poisonous substances into the lymphatic system?

3. Describe the ductus arteriosus and its office.

4. How has it been proved, experimentally, that fluids taken into the stomach are directly imbibed or absorbed?

5. Describe the pleural nerve and the costal muscles.

6. Does the injection of certain substances into the veins of animals, afford any evidence with respect to the rapidity of the circulation?

7. Describe the structure and connections of the gall bladder and common biliary duct.

8. Mention the experiments of Magendie, in order to prove venous inhibition or absorption.

9. Give a description of the roof, floor, and sides of the nasal cavity; mention the passages which communicate with the nose, and state the nerves and vessels supplying these organs.

10. Describe the composition of the salivary secretion, and its use in alimentation.

25th September, 1850, 2 o'clock, p.m.

For Candidates who have passed the First Examination.

ANATOMY, HUMAN AND COMPARATIVE.

Examiner, J. H. Corbett, M.D.

1. Describe the cricoid and thyroid cartilages of the larynx.

2. Describe the membrana tympani, its middle ear, and its contents.

3. Describe the pharyngeal fauces, and enumerate the muscles of that region.

4. Describe the testes of the testis, and the arrangement of its tubular structure.

5. Describe the cutaneous nerves of the forearm and *Arctomys* II. hand.

6. Describe the origin, course, and branches of the internal pudic artery in the male.

7. Describe the Cassian ganglion and superior maxillary nerve.

8. Describe the laryngeal plexus, vessels, and, and nasal duct.

9. Describe the anastomosis of the brachial artery.

10. Give an outline of the comparative development of the cerebellum in the four classes of vertebrate animals.

11. Describe the construction of the spinal column and thorax in birds.

12. Describe the respiratory apparatus of ophidian reptiles.

13. In what respect does the heart of a bird differ from that of a mammal?

14. What are the pervasions amongst cetacea for affording a supply of arterial blood during submergence.

25th September, 1850, 10 o'clock, a.m.

NATURAL PHILOSOPHY.—*Examiner, G. Johnston, M.D.*

1. An uniform straight lever, three feet in length, and weighing five pounds, has a fulcrum three inches from one end; what pressure does this fulcrum sustain when the lever is held horizontally by a vertical force applied at the end of the long arm?

2. If the friction on a horizontal railbed be $\frac{1}{10}$ of the pressure, what power would be required to draw a train weighing fifty tons at a speed of twenty miles per hour, if the other sources of loss of power were absent?

3. Investigate the power accumulated in a weight of fifty pounds moving with a velocity of ten feet per second.

4. If one of the weights of an Atwood's machine be two ounces, and the other two ounces and one-fourth, calculate how far they will travel from rest in two seconds.

5. How much cental force must be supplied to deflect a ball weighing five pounds, and moving with a speed of 100 yards per minute, into a circular path ten feet in diameter?

6. If the year, which consists of the interval between two successive apparent returns of the sun to the same point of the horizon, consisted of 300 solar days, what would be the length of the sidereal day?

7. How much iron, of specific gravity 8, should be attached to one pound of cork, of specific gravity $\frac{1}{2}$, to cause it to sink in water?

8. What is meant by saying that the specific heat of mercury is $\frac{1}{10}$, and that the latent heat of water is 80?

9. State the principles involved in making use of the common gold leaf electroscope as a test of the kind of electricity with which a given conductor is charged.

10. Describe the essential parts of some apparatus for giving the voltaic shock, and the use of such parts.

11. Some stereoscopic slides give the appearance of the object of its full size, others seem like miniature models of it; point out the difference between the slides which give these appearances.

12. Give an outline of the account to be given of the rainbow.

13. By what experiment may it be shown that the eye is blind at the punctum caecum?

25th September, 1850, 10 o'clock, a.m.

CHEMISTRY.—*Examiner, J. Dyer, M.D.*

1. How do chlorine and chloride of zinc act on disulphides?

2. Mention some of the modes of forming ozone. Give its properties, and the grounds for holding it to be an allotropic form of oxygen. How is its amount in the atmosphere estimated?

3. How is a double salt distinguished from the salt of a bibasic acid?

APPROVED.
Translation for Review in the Faculty of Medicine.

6. Ammonia and other alkalis of ammonium are added to a solution of sulphate of magnesium; explain the reactions in symbols.

7. To the foregoing clarify what reaction exists for forming double salts by substitution.

8. Oxide of potassium in excess is mixed with a solution of a salt of sodium and with one of cobalt, and hydrochloric acid is added; give the reaction in such case in symbols. Hence name other metals which, under the same circumstances, give similar results in cobalt.

9. How much of oxide of potassium can be prepared from one ounce of nitrate?



10. Prepare pure nitrate of silver from an alloy containing copper and silver.

11. How is ferrocyanide of potassium prepared? Give the views held by Berzelius and by Liebig as to its constitution.

12. Explain the quick method of forming acetic acid from alcohol. Give the formula of the hydrated salt, and calculate its per centage composition.

13. What is the nature of the compound nitrate? State the general mode of preparing them.

14. Give the theory of the formation of the essential oil of bitter almonds.

15. In what general characters do albumen, fibrin, and osaline agree? Give Meibner's view as to their constitution. State the objections to this theory.

16. What is the composition of urea? How is it obtained from uric acid, and in what manner may it be prepared artificially?

17. What is the constitution of bile according to the latest researches of Berzelius?

18. What is the normal condition (as to alkalinity and acidity) of the blood and of the urine in leucorrhoea, gonorrhoea, and syphilis; in what state are these states *de*, and what remedies do these of the blood possess?

22d September, 1866, 10 o'clock, a.m.

REPORT.—*Examiner, Dr. McNeill.*

1. Describe the structure of the section as exhibited by the cut of the microscope.

2. Describe the structure of the flower as the table.

3. Describe, in technical terms, the parts on the table, and refer them to their respective natural orders.

4. Describe the phenomena of reproduction in *Algae*.
5. Describe the phenomena of iridescence observed in the leaves of the *Mimosa pudica*, and state the alleged cause of these phenomena.

ZOOLOGY.

1. Describe the phenomena of metamorphosis observed in the higher Crustacea.

2. State the principal characters of the groups into which the *Arthropoda* are divided, and mention the phenomena connected with their evolution.

3. Give the arrangement of the *Phores* adopted by Professor Owen, with the principal characters of the groups included.

4. Give brief technical descriptions of the *Spizans* on the table.

25th September, 1866, 10 o'clock, a.m.

CONTINUOUS LABORATORY.—*Examiner, Professor Dr. Ferri.*

FRENCH.

Translate:—

Le couleux ou une espèce de tumeur blanche qui se forme dans l'articulation coxofemorale, et qui amène le déplacement spontané de la hanche; c'est le plus souvent le résultat d'un vice congénital.

Les phages dérivés peuvent des types légers, affaiblis, blanchâtres, transformés par des efforts maladroits, d'un vert pâle. Elles sont aqueuses et insipides.

1. Mention the rules of French Grammar on the use of the subjunctive mood.

2. Explain the meanings of the verbs *imposer* and *exiger*.

3. Exemplify the difference between *être* and *avoir*, between *avoir* and *devenir*, between *devenir* and *être*.
4. Mention some of the rules by which the French derived their language from the Latin.

5. Explain the difference between the imperfect and the present of the indicative mood, and illustrate it by examples.

6. What are the original sources of the French language?

7. State, and exemplify, the rules of the past participle.

8. Give a brief account of the labours of Riches.

GERMAN.

Translate:—

Wenn man nicht aus der Zeit der Geschichte in die Gegenwart übergeht, so ist die Geschichte der Menschheit eine Geschichte der Fortschritt.

Die Geschichte der Menschheit ist eine Geschichte der Fortschritt, die die Geschichte der Menschheit ist eine Geschichte der Fortschritt, die die Geschichte der Menschheit ist eine Geschichte der Fortschritt.

1. What is the sign of the past participle? When is it omitted?

2. Give examples of the present and past tense of the verbs *gehen* and *werden*.

3. Decline *er*, *sie*, *es*.

4. What is the difference between *haben* and *sein*?

5. Give the various meanings of the verb *werden*, and illustrate them by examples.

6. Explain the several applications of the words *Selbst* and *Gemeinschaft*.

7. What are the principal dialects of the German language, and from which of them is the English derived?

8. Give a brief account of the labours of Haller.

ITALIAN.

Translate:—

Il Galileo, e il Torricelli dimostrano della matematica che sono veri e proprii di illustrare in questa materia le sue di scienze, per cui non resta che aspettare di loro.

La parte del principio, quando non impedisce alla verità, produce, come l'osservazione dei particolari, un effetto agli studi.

1. How do the Italians render the English word *some* before a noun?

2. Compare the verbs *imporre* and *esigere*.

3. What is the difference between *essere*, *avere*, *diventare*, and *venire*, when singular?

4. What is the participle past of *avere*, *essere*, *diventare*, *imporre*, *esigere*, *venire*, *avere*?

5. Mention the conjunctions which govern the subjunctive mood.

6. When do the possessive pronouns refuse the definite article?

7. Mention the periods of the formation and progress of the Italian language.

8. Give a brief account of the labours of Margagni and Sassi.

Translate into French, or German, or Italian:—

In the history of medical knowledge, the distinction between different diseases was necessarily limited to the phenomena observed during life. When, however, attention was directed to the study of healthy and morbid anatomy, attempts were made to ascertain the various groups of symptoms with changes of the solid structures of the body. Thus, the forms of fever which had previously been regarded as the results of morbid actions affecting the whole system, were thought by various observers to be only the symptoms of the constitutional disturbances caused by inflammation of some of the internal organs, or the gastro-intestinal mucous membrane by

Broussais, the membranes of the brain by Glanville, or of different important organs by others.

Of the various medical theories which have at different times been advanced, few, if any, have excited so much discussion as the views of Broussais; but happily, instead of their having been contested on merely speculative grounds, they were subjected to the test which alone could prove their truth or falsehood. The phenomena of fever were closely observed at the bedside, and the conditions of the body after death were carefully investigated; and thus, while the exclusive views of Broussais were proved to be untenable, information was elicited which has entirely altered the generally received ideas as to the so-called continued fevers.

Thus, it was ascertained that in Paris the form of fever which prevailed was associated with lesions of the intestinal mucous membrane, though it was also shown

that the intensity of the febrile action bore no regular relation to the amount of local disease, and could not, therefore, be regarded as produced by it. In other localities, as in Edinburgh the instance, it was found that the prevalent fever was as constantly unaccompanied with any affection of the intestinal mucous membrane, and that the disease might exist in such intensity as rapidly to destroy life, without leaving behind it traces of morbid change in any organ. Two well-marked forms of disease were thus shown to have been included in the class of continued fevers, which, though bearing very close general resemblance to each other, yet presented various striking points of difference. For the latter form of fever the old term of "typhus" has been retained, while the former is now usually known as "typhoid fever."

DR. FRACOCK.

APPENDIX III.

DEGREES, DIPLOMAS, AND CERTIFICATES.

1. For the Degree of Doctor in Laws.

George Ferdinand Shaw,* LL.B., University of Dublin, of counsel.

2. For the Degree of Doctor in Medicine.

Name.	College.
Alexander Gibbert, M.D., LL.D.,	Belfast.
Richard Day, M.D.,	Cork.
David B. Jacob, M.D., LL.D.,	Belfast.
Edward L'Estrange,	Galway.
Edw. Louis McSwady, LL.D.,	Cork.
John Moohland, A.B.,	Galway and Belfast.
William Roche Blew, M.D., LL.D.,	Cork.
David Walker,	Belfast.
Joseph Henry Corbett, LL.D.,	University of Edinburgh, of counsel.

3. For the Degree of Master in Arts.

Name.	College.
Henry Cowan,	Belfast.
Charles J. Hooper,	Galway.
Patrick Ford,	Galway.
John Ferguson McCallan,	Belfast.
James Young,	Belfast.

4. For the Degree of Bachelor in Arts.

Name.	College.
Pierce Arnold,	Galway.
Asherson George Bartley,	Belfast.
Joseph Carkey,	Belfast.
Bennett Clear Davidson,	Cork.
Hugh Clarke Graham,	Belfast.
George Wray Hamill,	Belfast.
Francis B. Harley,	Galway.
John Bewnes McEldie,	Belfast.
Thomas McCowee,	Cork.
John McParland,	Belfast.
Timothy O'Brien O'Farly,	Galway.
Arthur Herbert O'Keefe,	Cork.
Andrew Marshall Porter,	Belfast.
Thomas Sinclair,	Belfast.
Daniel Tierney,	Galway.
Thomas Wall,	Cork.
Walter Angus Watts,	Galway.
William Taylor When,	Belfast.
William Christie, A.B.,	University of Dublin, of counsel.

5. For the Diploma in Elementary Law.

Name.	College.
Timothy O'Brien O'Farly,	Galway.
Robert Seale,	Belfast.

6. For Certificate of having passed first Medical Examination.

Name.	College.
John William Collins,	Cork.
Henry Talbot Dunn,	Cork.
Richard B. Davidson,	Belfast.
William McCormac, A.B.,	Belfast.
James McCreery,	Belfast.
Denial Murray O'Hara,	Belfast.
Robert Stewart,	Belfast.

DISTRIBUTION OF PRIZES.

M.B. DIPLOMA.

1. For Candidates Proceeding under the Ordinances of 30th June, 1850.

A gold medal and an exhibition of £20, John Moohland.

2. For Candidates Proceeding under the Ordinances of 15th March, 1853.

A gold medal and an exhibition of £10, William Roche Blew.

A.B. DIPLOMA.

1. Classica.

No honor awarded.

2. English Philology and Criticism, Logic, Metaphysics, or Political Economy and Jurisprudence.

A gold medal and an exhibition of £15, Charles John Hooper.

3. Mathematica, Pure and Mixed.

A gold medal and an exhibition of £15, Patrick Ford.

4. Experimental and Natural Science.

A gold medal and an exhibition of £15, James Young.

A.B. DIPLOMA.

1. Ancient Classical Languages and Literature.

1. An exhibition of £15, John McParland.

2. An exhibition of £10, Pierce Arnold.

2. English Language and Literature.

A gold medal and an exhibition of £10, John McParland.

3. Continental Languages.

1. A gold medal and an exhibition of £15, John McParland.

2. An exhibition of £10, Pierce Arnold.

4. Pure Mathematics.

A gold medal and an exhibition of £15, Thos. Sinclair.

* Fellow and Tutor, Trinity College, Dublin.
* Professor of Anatomy and Physiology, the Queen's University.

APPENDIX III. A. Natural Philosophy, Mixed Mathematics.

No honor awarded.

Degrees,
Diplomas, and
Certificates.

6. Natural Philosophy, Physics.

A gold medal and an exhibition of £10, Ashurst George Bartley.

6. Chemistry.

A gold medal and an exhibition of £10, Ashurst George Bartley.

7. Natural Science.

An exhibition of £10, William Taylor Winn.

8. Logic and Metaphysics.

A gold medal and an exhibition of £10, Hugh Clarke Graham.

9. Jurisprudence and Political Economy.

A gold medal and an exhibition of £10, Joseph Carby.

IN ELEMENTARY LAW.

A gold medal and an exhibition of £10, Timothy O'Brien O'Day.

AT FIRST OFFICIAL EXAMINATION.

An exhibition of £10, William McGowan.

APPENDIX IV.

Ordinance for
the Degree,
Diploma, and
Honor Ex-
aminations.

APPENDIX IV.

ORDINANCE REGULATING THE CONDITIONS, FORMS, AND SUBJECTS OF THE DEGREE, DIPLOMA, AND HONOR EXAMINATIONS, FOR THE YEAR 1857.

GENERAL REGULATIONS.

The General Examination will commence on Tuesday, the 15th September, 1857, and will be carried on in the order prescribed in the annexed Table.

This Examination will be principally by printed papers, with such oral and interrogatory as the Examiners may deem necessary. The Honor Examination is to be solely by printed papers.

Candidates will be required to answer for Degrees and Diplomas in all the subjects prescribed by the Ordinances for their respective courses, save where an option is given herein.

The Honor Examination will be similarly conducted (except where specially provided for), the questions being of a higher character.

The following Fees to the University are to be paid by the respective Candidates to the Secretary, before the Examination; they are not returnable in case of rejection, but are not required again for re-examination:—

DEGREES.	DURATION.
B.A., ... 40	Engineering, ... 40
M.A., ... 8	Elementary Law, ... 2
A.M., ... 2	Agriculture, ... 2
B.D., ... 1	
A.B., ... 1	

The Names of Candidates obtaining Degrees or Diplomas will be published in alphabetical order; those of Candidates obtaining Honors in the order of merit.

The Examiners having named Candidates for Degrees or Diplomas, shall select from them those whom they consider deserving of being examined for Honors, and shall return their names to the Secretary, with the result of the General Examination. None others shall be entitled to compete for Honors, save for those in the Celtic, Sanskrit, or Arabic Languages, for which any Candidate who has passed for a Degree may present himself as a competitor, these subjects not requiring a preliminary examination.*

Students passed for the Degree of A.B. may be examined for Honors in more than one department.

The Examiners are to recommend for Honors only on the ground of absolute merit. If, consequently, Honors shall be withheld in any one branch of study, the Senate may, on the recommendation of the Examiners, apply the sanction to increase those in any other department.

Candidates must furnish to the Secretary, through their respective Registrars, on or before the 1st of September, the several Certificates required by the Ordinances, for the purpose they will be supplied by the Registrars with proper Forms and Schedule.

All Degrees and Honors are conferred at the Public Meeting of the University.

* Candidates for Honors in the Celtic, Sanskrit, or Arabic Languages, are requested to give their names to the Secretary as soon as possible after the Degree Examination.

FACTORY OF ARTS.

EXAMINATION for the DEGREE of BACHELOR OF ARTS, and for HONORS in that FACULTY.

Every Candidate will be required to answer for the Degree of A.B. in the subjects included in the Group A. of the following Table, and also to answer in the subjects of one of the three groups of subjects marked B, C, D, respectively, the Candidate being allowed to select.

1. GROUP A.—REQUIRED FROM ALL CANDIDATES.

- a. (The Latin Language and Literature.
- b. (The Greek Language and Literature.
- c. A Modern Foreign Language.
- d. Mathematics.

2. a. SECOND GROUP, in one of which the CANDIDATE MUST ANSWER.

GROUP B.

English Philology and Criticism.

Logic.
Metaphysics, or (in place of Metaphysics, at the election of the Candidate) Political Economy and Jurisprudence.

GROUP C.

Chemistry,
d. Natural Philosophy.

GROUP D.

Zoology.

Botany.

Physical Geography.

2.—In the Latin and Greek Languages every Candidate will be allowed to select for his examination in each language some two works of the following Classical Authors:—

- Virgil.—First Six Books *Æneid*,
Horace.—*Satires*, *Epistles*, and *Art of Poetry*.
Sallust.
Tacitus.—*Annals* and *Historia*.
Cicero.—*Orations* against *Cæsar*.
Thucydides.—*Agamemnon* and *de Heraclea*.
Demosthenes.—*Antiphon*, *Isch*, *Ly*, *Al*.
Rome.—*Thal*, *Ant*, *Ant*, *Ant*.
Hæc.—*Ant*, *Ant*, *Ant*.
Each class.—*Ant*, *Ant*, *Ant*.
Hæc.—*Ant*, *Ant*, *Ant*.
Tacitus.—*Ant*, *Ant*, *Ant*.

2.—In Modern Languages the Candidate will be allowed to select for his examination, the French, the German, or the Italian language, and will be required to translate from some two Modern Authors, in the language selected, and to translate an exercise from English into the same language.

3.—In Mathematics the Candidate will be examined in—

- The 1st, 2nd, 3rd, 4th, and 5th Books of *Euclid*, and in the *Definitions* of the 10th Book.
Archimedes, including *Volumes* and *Conical Sections*.
Algebra, including the usual rules, to the end of Quadratic Equations, with the *Notions* and *Use* of Logarithms.
Plane Trigonometry.

2. In the Examination in Natural Philosophy the Candidate will be expected to be able to give such mathematical proofs in reference to any question proposed as may be supplied by the foregoing mathematical course.

3.—In the Examinations upon the subjects of the groups selected by the Candidates, the object of the Examiner will be to ascertain the extent and tenacity of the general knowledge of each subject possessed by the Candidate.

The special Courses and regulations of the Honor branches are as follows:—

1.—ANCIENT CLASSICAL LANGUAGES AND LITERATURE.

1st Honor: an Exhibition, value £15, and a Gold Medal.
2nd Honor: an Exhibition, value £10.

The Candidates for Classical Honors will be examined in the following course:

Homer—*Odys.* Books, and *Eglog.*
Virgil—*Æneid*, Books 1 to 6.
Cæsar—*Commentarii* Bello Gallico.
De Cæsare.
Aulus Gellius.
Juvenal—*Satires*, 1, 2, 3, 4, 12, 14.
Terence—*Æneid*, Book 1.
Horace—*Satires*, Book 1.
Livy—Books 4 and 33.
Tacitus—*Annals* and *Dialogues*.
Plautus—*Amphitruo* and *Trinummus*.
Theophrastus—*De Plantis*.
Hærodotus—*Book 1*.
Æschylus—*Seven Against Thebes*.
Sophocles—*Oedipus Coloneus*.
Homer—*Iliad*, 20 to 24.
Odyssey, 12 to 16.
Æschylus—*Agamemnon*, and *Orestes*.
Greek and Latin Composition in Prose and Verse.

2.—ENGLISH LANGUAGE AND LITERATURE.

Honor: an Exhibition, value £10, and a Gold Medal.

The Candidates will be examined in the History, Philology, and Grammar of the English language, at various periods, and in the principles of Literary and Grammatical Criticism, as exemplified in application to various Authors in English Literature.

3.—MODERN FOREIGN LANGUAGES.

1st Honor: an Exhibition, value £15, and a Gold Medal.
2nd Honor: an Exhibition, value £10.

Candidates will be examined in the History, Philology, and Grammar of the following Modern Languages, viz.:—The French or German, or the French and German, or the French, German, and Italian, as the Candidate may think proper. He will be required also to translate from English into the language or languages selected by him for examination.

4.—MATHEMATICS.

1st Honor: an Exhibition, value £15, and a Gold Medal.
2nd Honor: an Exhibition, value £10.

The Candidates will be examined in the following Course:—

Euclid—Books 1, 2, 3, 4, 5, 6.
Algebra, including its Application to Questions of Probability and Amalgamation.
The Theory and Solution of the Higher Equations.
Plane Trigonometry, including De Moivre's Theorem and its Applications, and the Construction and Use of Trigonometrical Tables.
Cyclic Sections.
Differential and Integral Calculus.
Differential Equations.
Coordinate Geometry, of Two and of Three Dimensions.
The First three Sections of the First Book of the Principles.
Spherical Trigonometry and its Application to Astronomy.
Theory of Logarithms—Construction and Use of Logarithmic Tables.

5.—NATURAL PHILOSOPHY.

Honor: an Exhibition, value £15, and a Gold Medal.

Subjects of Examination:—

Mechanics;
Optics, Geometrical and Physical;
Astronomy, Physical and Mathematical;

mathematically treated; and for another Hour an Exhibition, £10 and a Gold Medal: subjects of examination:—

Experimental Physics.
Heat.
Electricity.

6.—CHEMISTRY AND CHEMICAL PHYSICS.

Honor: an Exhibition, value £15, and a Gold Medal.

The subjects of Examination will be:—

Chemical Philosophy.
Thermal Electricity.
Crytallology.
Inorganic and Organic Chemistry.

7.—NATURAL SCIENCES.

Honor: an Exhibition, value £15, and a Gold Medal.

The subjects of Examination will be:—

The Principles of Animal Structure and Classification.
The Principles of Vegetable Structure and Classification.
The Elements of Geology and Physical Geography.
The Laws of Geographical Distribution of Plants and Animals.

8.—LOGIC AND METAPHYSICS.

Honor: an Exhibition, value £15, and a Gold Medal.

The Examination will be conducted in accordance with the Courses of Instruction in Logic and Metaphysics given in the Queen's Colleges.

9.—JURISPRUDENCE AND POLITICAL ECONOMY.

Honor: an Exhibition, value £15, and a Gold Medal.

The Examination will be conducted in accordance with the Courses of Instruction in Jurisprudence and in Political Economy given in the Queen's Colleges.

10.—Celtic Languages.

Honor: an Exhibition, value £15, and a Gold Medal.

The Examination will include the Critical History and Philology of the Brehon-Celtic language, with translation of passages from Authors of different periods, and re-translations from English.

11.—SANSKRIT.

Honor: an Exhibition, value £10, and a Gold Medal.

12.—ARABIC.

Honor: an Exhibition, value £10, and a Gold Medal.

REGULATIONS FOR THE EXAMINATION OF CANDIDATES FOR THE DEGREE OF A.M.

A Candidate may proceed to claim his Master's Degree by examination in any one of the five following Courses of Study, viz.:—

- 1.—Classics, which shall be considered as including:—
The Greek and Latin Classics Authors; Greek Composition in Greek, Latin, and English; a modern Foreign Language.
- 2.—English Philology and Criticism.
Logic.
Metaphysics, or (in place of Metaphysics, at the Election of the Candidate) Political Economy and Jurisprudence.
- 3.—Mathematical and Physical Science, which shall be considered as including the following subjects:—
Algebra, including the theory of Equations.
Analytical Geometry.
Trigonometry, Plane and Spherical.
The Differential and Integral Calculus.
Differential Equations.
Theory of Probabilities.
Statics and Dynamics.
Hydrostatics.
Hydraulics and Pneumatics.
Heat.
Electricity and Magnetism.
Optics.
Plane Astronomy.
Physical Astronomy.
- 4.—Experimental and Natural Science, which shall be considered as including the following subjects:—
Experimental Physics.
Laws of Chemical combination and combination.

APPENDIX
IV.

Ordinances for
the Degree,
Diploma, and
Honor Examinations.

**APPENDIX
IV.
—
Ordinances for
the Degree,
Diploma, and
Honour Examinations.**

General properties and preparation of Organic and Inorganic bodies.
Structure, Functions, and Classification of Animals.
Structure, Functions, and Classification of Vegetables.
Zoological and Botanical Geography.
Elements of Geology and Palaeontology.
Elements of Physical Geography.
Elements of Crystallography and Mineralogy.

An Exhibition of £15, with a Gold Medal, will be conferred by the Senate upon any Candidate who shall obtain the first place in any one of the above four Courses of Study, if he be recommended as possessed of sufficient absolute merit.

REGULATIONS FOR THE EXAMINATION OF CANDIDATES FOR THE DIPLOMA OF CIVIL ENGINEER or of AGRICULTURIST.

1.—ENGINEERING DIPLOMA.

1. The Mathematical Examination of Engineering Candidates will include—

Arithmetic, including Vulgar and Decimal Fractions.
Algebra, to the end of Quadratic Equations.
Euclid, 1st, 2nd, 3rd, 4th, 5th, and 6th Books.
Trigonometry.
Plane Trigonometry.
Elements of Spherical Trigonometry.
Construction and use of Logarithmic and Trigonometrical Tables.
Chain Surveys.
Descriptive Geometry.

2. The Examination in Natural Philosophy, Chemistry, Mineralogy, and Geology, will be conducted with special reference to Engineering objects. In Natural Philosophy the Candidate will be required to supply in his answers all such mathematical proofs as may be supplied by the Mathematical Course above specified.

Every Engineering Candidate will be required to produce one of his own drawings of each of the following kinds, viz. :—Bridges and Roads, accompanied by Plans and Sections; also Topographical Maps, with the Field-books and observations from which the whole were constructed. Candidates are recommended to produce Architectural drawings and drawings of Machinery. These drawings must be certified by the Teacher of Drawing in the College as having been *bona fide* executed by the Candidate.

Candidates will be furnished with data for a project of Constructive Engineering or Architecture, and will be required to furnish detailed propositions for carrying same into effect, with estimates and specifications.

Every Engineering Candidate must provide a certificate of having been engaged in obtaining a practical knowledge of Engineering under the direction of a Practising Engineer, for the term required by the Ordinance under which he proceeds for his Diploma.

2.—AGRICULTURAL DIPLOMA.

The Examination will include—

Arithmetic, with Vulgar and Decimal Fractions.
Algebra practically treated.
Principles of Natural Philosophy (without Mathematical proof.)

And all the other subjects of the Course for Agricultural Diploma specified in the Ordinance, considered specially in their applications to Agriculture and Land Improvement.

The Candidate is recommended to produce any Surveys or Maps, with the Field-books from which they were constructed, which he may have prepared during his term of instruction in Surveying.

The Candidate will be furnished with data for a project of Farm Improvement, and required to furnish a detailed proposition for carrying the same into effect, with estimates and specifications.

The Candidate will be required to exhibit and explain a plan previously arranged by him for keeping Farm Accounts.

HONOR EXAMINATION in the DEPARTMENT of ENGINEERING and AGRICULTURE.

Engineering—Honor: an Exhibition, value £10, and a Gold Medal.

The Examination in Mathematics will include the following additional Course—

The Higher Algebra.
Differential and Integral Calculus, Differential Equations.
Conic Sections Geometry of two and of Three Dimensions.
Spherical Trigonometry, and its application to Astronomy and Geodesy.
The first three Sections of the First Book of the Elements.

In the examination in Natural Philosophy and in the theory and construction of Machinery, the subjects will be mathematically treated.

Agriculture—Honor: an Exhibition, value £10, and a Gold Medal.

FACULTY OF LAW.

FOR THE DEGREE OF LL.B.

Candidates will be examined in the Laws of the Admiralty and Ecclesiastical Courts of England and Ireland, in addition to the subjects of Examination for the Degree of LL.B.

FOR THE DEGREE OF LL.B.

Candidates will be examined in the Law of Property, and Principles of Conveyancing, Jurisprudence, Equity, Common and Criminal Law, Civil Law, Pleading, Practice, and Evidence, Constitutional, Colonial, and International Law.

LL.B. HONOR EXAMINATIONS.

Honor: an Exhibition, value £10, and a Gold Medal.

FOR DIPLOMA IN ELEMENTARY LAW.

Law of Property, and Principles of Conveyancing, Jurisprudence, Equity, Common and Criminal Law, Civil Law.

HONOR EXAMINATION in ELEMENTARY LAW.

Honor: an Exhibition, value £10, and a Gold Medal.

FACULTY OF MEDICINE.

REGULATIONS for the EXAMINATION of CANDIDATES for DEGREE and DIPLOMA.

Candidates will be required to answer in all the subjects of the Course prescribed for the Degree of M.D., by the Ordinance of 30th June, 1856; or for the first or second Examination under the Ordinance of the 15th of March, 1852. Those latter will be consistent with the Examinations under the original Ordinance, and will be conducted in the same way.

HONOR EXAMINATION in the FACULTY OF MEDICINE.

<i>Honor</i>: an Exhibition, value £10, and a Gold Medal, and <i>Honor</i>: an Exhibition, value £10.	For Candidates electing to proceed under the Ordinance of June, 1856.
<i>Honor</i>: an Exhibition, value £10, and a Gold Medal.	For Candidates in the second examination under the Ordinance of 15th March, 1852.
<i>Honor</i>: an Exhibition, value £10.	(For Candidates in the first examination under the said Ordinance.)

By Order,

HENRY HALL, M.D., Secretary.

The Queen's University, 24th November, 1856.

CANBERRA.

I, GEORGE WILLIAM FREDERICK, EARL OF CANBERRA, Lord Lieutenant-General and General Governor of Ireland, do hereby approve of the foregoing Ordinance.

By His Excellency's Command,

THOMAS A. LUSCOM.

Options of the General and Services Examination in the following Systems in the Queen's University in Belfast, 1944.

		APPS, A.B. SYSTEM	ADAPTATION	WIDENER	EMERSON
Translative Services.	1st Year	Latin.	Theory of Agriculture, Farm Practice, and gardens.	Botany.	
	2nd Year	Greek.	Practice of Agriculture, Farm Experiments.	Physics.	Chemistry and Geology.
Workman, Life Services.	1st Year	Modern Languages.	History and Customs of Farm Animals.	Modern Languages.	Engineering and Architecture and Physics.
	2nd Year	English Literature.	Planting and Mapping.	Health, Hygiene, Pharmacy and Medical Jurisprudence.	Surveying and Navigation.
General, Life Services.	1st Year	Mathematics.	Archaeology.	Astronomy.	Mathematics.
	2nd Year	English Literature.		Physiology and Comparative Anatomy.	Mathematics.
Physics, Life Services.	1st Year	Chemistry.	Chemistry.	Chemistry.	Chemistry.
	2nd Year	General Philosophy.	Elements of Physics.	General Philosophy.	General Philosophy, Practical Science.
Science & Life Services.	1st Year	Ecology and Botany.	Principles of Ecology and Botany.	Ecology (Change from Study).	
	2nd Year	Physical Geography.	Mineralogy and Geology, Physical Geography.	Mineralogy and Chemical Physics and Botany.	Physiology, Geology and Physics.
Workman, Life Services.	1st Year	Engineering and Industrial Science.			
	2nd Year	Engineering and Industrial Science.			
General, Life Services.	1st Year	Engineering and Industrial Science.			
	2nd Year	Engineering and Industrial Science.			

OF THE QUEEN'S UNIVERSITY IN BELFAST

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[illegible]

APPENDIX V.

RETURNS of STUDENTS attending the following MEDICAL SCHOOLS and HOSPITALS have been received during the year ended June, 1857.

MEDICAL SCHOOLS AND HOSPITALS.	HOSPITALS.
Dublin, Four-street.	Dublin.
Queen's College, Belfast.	City of Dublin.
Queen's College, Cork.	General Infirmary and Fever
Queen's College, Galway.	Hospital.
Trinity College, Dublin.	House of Industry,
WATERFORD.	Jervis-street.
	Moor.
	Moor.
	N. and S. Infirmary, Cork.
	St. Vincent's,
	Waterford.

Students who intend to present themselves for examination for Medical Degrees in the Queen's University, should ascertain that their names are returned for any Medical Examinations they may attend, lest in consequence of such returns not having been supplied, their qualifications should be deemed insufficient when they so present themselves; and lecturers who are willing to make the required returns, and who have not received the necessary forms through the Registrar of the respective institutions, should cause application to be made for them.

APPENDIX VI.

RETURNS of
Students
attending
Medical
Schools and
Hospitals.

APPENDIX VI.

AN ESTIMATE of the SUM that will probably be required to defray the EXPENSES of the QUEEN'S UNIVERSITY in IRELAND, for the year ending 31st March, 1858.

Two Thousand Four Hundred and Twenty-five Pounds.

SALARIES OF EXAMINERS.	£	s.	d.
1. In Greek, ...	100	0	0
2. In Latin, ...	100	0	0
3. In Modern Languages, ...	50	0	0
4. In Celtic Languages, ...	50	0	0
5. In Mathematics, ...	100	0	0
6. In Logic and Metaphysics, ...	50	0	0
7. In Chemistry, ...	100	0	0
8. In Zoology and Botany, ...	50	0	0
9. In Natural Philosophy, ...	100	0	0
10. In English Literature, ...	50	0	0
11. In Mineralogy, Geology, and Physical Geo-			
graphy, ...	50	0	0
12. In Jurisprudence and Political Economy, ...	40	0	0
13. In Theory and Practice of Medicine, ...	100	0	0
14. In Theory and Practice of Surgery, ...	100	0	0
15. In Materia Medica, Pharmacology, and Medical			
Jurisprudence, ...	100	0	0
16. In Anatomy, Physiology, and Comparative			
Anatomy, ...	100	0	0

	£	s.	d.
17. In Midwifery, and Diseases of Women and Children, ...	75	0	0
18. In Engineering and Surveying, ...	50	0	0
19. In Agriculture and Farm Management, ...	50	0	0
20. In Law, ...	40	0	0
21. In Natural History, ...	50	0	0
22. In Artillery, ...	50	0	0
	1,315	0	0

OFFICE CHARGES.

Secretary's Salary, ...	300	0	0
Incidental Office Expenses, Postage, Messen-			
gers, Advertisement, &c., ...	100	0	0
Stationery, Press, Models, ...	475	0	0
	2,215	0	0

Probable amount of Fees (being the sum received, 1857), ... 80 0 0

TOTAL SUM required, ... £3,435 0 0

APPENDIX VI.

Estimate of
the Sum
required for
the Queen's
University.

APPENDIX VII.

CASH ACCOUNT of the QUEEN'S UNIVERSITY, for the year ending 30th June, 1857.

Dr.	£	s.	d.
To Balance of Account, June, 1856, ...	244	5	2
To Parliamentary Grant, 1856, 1856, ...	2,415	0	0
To Fees on Degrees and Examinations, ...	90	0	0
	2,749	5	2

Cr.	£	s.	d.
By Salaries of Examiners and Secretary, ...	1,320	0	0
Incidental Expenses, ...	545	15	7
Medical and Midwifery, ...	217	10	0
Balance in Bank, ...	545	15	0
	2,627	25	7

Total Charge, ... £2,750 5 2

Total Discharge, ... £2,750 5 2

APPENDIX VII.

Cash Account
of the Queen's
University.

APPENDIX VIII.

EXAMINERS elected 16th July, 1857.

Greek.—Charles Mac Donell, A.M., Professor, Q.C., Belfast.
Latin.—Bernard Lewis, A.M., Professor, Q.C., Cork.
English Literature.—George L. Gault, A.M., Professor, Q.C., Belfast.
Logic and Metaphysics.—Thomas W. Moffet, LL.D., Professor, Q.C., Galway.
Mathematics.—George Roche, LL.D., Q.C., Cork.
Natural Philosophy.—John Staveland, LL.D., Professor, Q.C., Belfast.
Chemistry.—Thomas H. Mowsey, Ph.D., Professor, Q.C., Galway.
Anatomy and Physiology.—Robert Harrison, M.D., Professor, T.C. Dublin.
Zoology and Botany.—William Smith, F.R.S., Professor, Q.C., Cork.
Modern Languages.—Raymond De Voisard, D. de L., Professor, Q.C., Cork.

Mineralogy, Geology, and Physical Geography.—William King, Professor, Q.C., Galway.
Jurisprudence and Political Economy.—D. Gaultfield Heron, LL.D., Professor, Q.C., Galway.
Law.—W. R. Drury, Esq., Barrister-at-Law.
Civil Engineering and Surveying.—Alexander Jack, A.M., Professor, Q.C., Cork.
Agriculture.—Thomas Skilling, Professor, Q.C., Galway.
Celtic Languages.—John O'Donovan, LL.D., M.R.I.A., Professor, Q.C., Belfast.
Medicine.—John C. Ferguson, A.M., M.B., Professor, Q.C., Belfast.
Surgery.—M. H. Collis, M.B.
Materia Medica, Pharmacology, and Medical Jurisprudence.—T. Goughan, M.D.
Midwifery, and Diseases of Women and Children.—Jas. S. Murray, A.B., M.D., Professor, Q.C., Cork.

APPENDIX VIII.

Examiners
elected.

APPENDIX

IX.

Meetings of
the Senate.

APPENDIX IX.

MEETINGS OF THE SENATE for the period of this Report in the Office of the University, Dublin Castle.

9th September, 1855.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
The Right Hon. Lord Chief Baron Pigot.
The President of the Queen's College, Belfast.
The President of the Queen's College, Cork.
The President of the Queen's College, Galway.
Dominic J. Corrigan, M.D.
Lieut.-Colonel Lawson, M.D., M.P.

Robert Ball, M.D., *Secretary*.

2nd October, 1855.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
The Right Hon. Lord Chief Baron Pigot.
The President of the Queen's College, Belfast.
The President of the Queen's College, Cork.
The President of the Queen's College, Galway.
Dominic J. Corrigan, M.D.
The Right Hon. Lord Chief Justice Monahan.
Robert Ball, M.D., *Secretary*.

Public Meeting—October 7, 1855.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
His Grace Richard, Archbishop of Dublin.
Sir Philip Curzon, Bart., M.P.
The President of the Queen's College, Belfast.
The President of the Queen's College, Cork.
The President of the Queen's College, Galway.
Dominic J. Corrigan, M.D.
Lieut.-Colonel Lawson, M.D., M.P.
James Gibson, A.M.
Robert Andrews, M.D.
The Right Hon. Lord Chief Justice Monahan.
Robert Ball, M.D., *Secretary*.

11th October, 1855.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
The Right Hon. Francis Blackburne, Lord Justice of Appeal.
The Right Hon. Lord Chief Baron Pigot.
The President of the Queen's College, Belfast.
The President of the Queen's College, Cork.
The President of the Queen's College, Galway.
Dominic J. Corrigan, M.D.
James Gibson, A.M.
Robert Andrews, M.D.
The Right Hon. Lord Chief Justice Monahan.
Robert Ball, M.D., *Secretary*.

26th October, 1855.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
The Right Hon. Lord Chief Baron Pigot.
The President of the Queen's College, Belfast.
The President of the Queen's College, Cork.
The President of the Queen's College, Galway.
Richard Griffith, M.D.
Dominic J. Corrigan, M.D.
Robert Andrews, M.D.
The Right Hon. Lord Chief Justice Monahan.
Robert Ball, M.D., *Secretary*.

30th October, 1855.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
The Right Hon. Lord Chief Baron Pigot.
The President of the Queen's College, Belfast.
The President of the Queen's College, Cork.
The President of the Queen's College, Galway.
Richard Griffith, M.D.

Dominic J. Corrigan, M.D.

James Gibson, A.M.

Robert Andrews, M.D.

The Right Hon. Lord Chief Justice Monahan.

Robert Ball, M.D., *Secretary*.

6th November, 1855.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
His Grace Richard, Archbishop of Dublin.
The Right Hon. Francis Blackburne, Lord Justice of Appeal.
The Right Hon. Lord Chief Baron Pigot.
The President of the Queen's College, Belfast.
The President of the Queen's College, Cork.
Richard Griffith, M.D.
James Gibson, A.M.
Robert Andrews, M.D.
The Right Hon. Lord Chief Justice Monahan.
Robert Ball, M.D., *Secretary*.

7th January, 1857—*Stated Meeting*.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
The President of the Queen's College, Belfast.
The President of the Queen's College, Cork.
The President of the Queen's College, Galway.
Dominic J. Corrigan, M.D.
The Right Hon. Lord Chief Justice Monahan.
Robert Ball, M.D., *Secretary*.

22nd January, 1857.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
The President of the Queen's College, Cork.
The President of the Queen's College, Galway.
James Gibson, A.M.
Robert Andrews, M.D.
Robert Ball, M.D., *Secretary*.

14th April, 1857.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
His Grace Richard, Archbishop of Dublin.
The Right Hon. Francis Blackburne, Lord Justice of Appeal.
The President of the Queen's College, Belfast.
The President of the Queen's College, Cork.
The President of the Queen's College, Galway.
Richard Griffith, M.D.
Lieut.-Colonel Lawson, M.D., M.P.
James Gibson, A.M.
Robert Andrews, M.D.
The Right Hon. Lord Chief Justice Monahan.

Adjourned Meeting—27th April, 1857.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor*.
The Right Hon. Francis Blackburne, Lord Justice of Appeal.
The Right Hon. Lord Chief Baron Pigot.
The President of the Queen's College, Belfast.
The President of the Queen's College, Cork.
The President of the Queen's College, Galway.
Richard Griffith, M.D.
Dominic J. Corrigan, M.D.
James Gibson, A.M.
The Right Hon. Lord Chief Justice Monahan.

*Adjourned Meeting—20th April, 1857.**Present:*

The Right Hon. Lord Chancellor Brady, Vice-Chancellor.
 The Right Hon. Francis Blackburne, Lord Justice of Appeal.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Richard Griffith, M.A.
 Dominic J. Corrigan, M.A.
 James Gibson, A.M.
 Robert Andrews, M.A.

*Adjourned Meeting—1st May, 1857.**Present:*

The Right Hon. Lord Chancellor Brady, Vice-Chancellor.
 His Grace Richard, Archbishop of Dublin.
 The Right Hon. the Earl of Bessborough, K.P.
 The Right Hon. Francis Blackburne, Lord Justice of Appeal.
 The Right Hon. Lord Chief Baron Pigot.
 Sir Philip Grangton, Bart., M.P.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Richard Griffith, M.A.
 Dominic J. Corrigan, M.A.
 James Gibson, A.M.
 Robert Andrews, M.A.
 The Right Hon. Lord Chief Justice Monahan.

*16th May, 1857.**Present:*

The Right Hon. Lord Chancellor Brady, Vice-Chancellor.
 The Right Hon. Francis Blackburne, Lord Justice of Appeal.
 Richard Griffith, M.A.
 Dominic J. Corrigan, M.A.
 James Gibson, A.M.

G. Johnston Stoney, A.M., Secretary.

*2nd June, 1857.**Present:*

The Right Hon. Lord Chancellor Brady, Vice-Chancellor.
 The Right Hon. Francis Blackburne, Lord Justice of Appeal.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Dominic J. Corrigan, M.A.
 James Gibson, A.M.

G. Johnston Stoney, A.M., Secretary.

*20th June, 1857—Stated Meeting.**Present:*

The Right Hon. Lord Chancellor Brady, Vice-Chancellor.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Lieut.-Colonel Larcom, M.A., M.P.

G. Johnston Stoney, A.M., Secretary.

*16th July, 1857.**Present:*

The Right Hon. Lord Chancellor Brady, Vice-Chancellor.
 The Right Hon. Francis Blackburne, Lord Justice of Appeal.
 Sir Philip Grangton, Bart., M.P.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Dominic J. Corrigan, M.A.
 Lieut.-Colonel Larcom, M.A., M.P.
 James Gibson, A.M.

G. Johnston Stoney, A.M., Secretary.

APPENDIX
 IX.
 Meetings of
 the Senate.

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